

Outputs and Interactions

1. Publications

Anderson, D.L. and Mackey, E.A., ***“Improvements in Food Analysis by Thermal Capture Prompt Gamma-ray Spectrometry,”*** J. Radioanal. Nucl. Chem. (in press).

Bamford, H.A., Poster, D.L., Huie, R.E., and Baker, J.E., ***“Using Extrathermodynamic Relationships to Model the Temperature Dependence of Henry's Law Constants of 209 PCB Congeners,”*** Environ. Sci. Technol., 36, 4395-4402 (2002).

Bamford, H.A., Schantz, M.M., Bezabeh, D.Z., Wise, S.A., and Baker, J.E., ***“Determination and Comparison of Nitrated Polycyclic Aromatic Hydrocarbons Measured in Air and Diesel Particulate Reference Materials,”*** Chemosphere, 50, 575-587 (2003).

Bedner, M., MacCrehan, W.A., and Helz, G.R., ***“Improving the Recoveries of Unstable N-Chloramines Determined by Liquid Chromatography/Post-Column Electrochemical Detection,”*** J. Chromatogr. Sci., 40, 447-455 (2002).

Bedner, M., MacCrehan, W.A., and Helz, G.R., ***“Making Chlorine Greener: Survey of Alternative to Sulfite for Dechlorination,”*** Water Research 2003 (in press).

Bedner, M., MacCrehan, W.A., and Helz, G.R., ***“Production of Macromolecular Chloramines by Chlorine Transfer Reactions in Wastewater,”*** Env. Sci. Technol (in press).

Benner, B.A., Jr., Goodpaster, J.V., DeGrasse, J.A., Tully, L.A., and Levin, B.C., ***“Characterization of Surface Organic Components of Human Hair by On-Line Supercritical Fluid Extraction - Gas Chromatography/Mass Spectrometry: A Feasibility Study and Comparison with Human Identification Using Mitochondrial DNA Sequences,”*** J. Forensic Sci., 48, 544-563 (2003).

Bezabeh, D.Z., Bamford, H.A., Schantz, M.M., and Wise, S.A., ***“Determination of Nitrated Polycyclic Aromatic Hydrocarbons in Diesel Particulate-Related Standard Reference Materials by using Gas Chromatography/Mass Spectrometry with Negative Ion Chemical Ionization,”*** Anal. Bioanal. Chem., 375, 381-388 (2003).

Blevins, L.G., Fletcher, R.A., Benner, B.A., Jr., Steel, E.B., and Mulholland, G.W., ***“The Existence of Young Soot in the Exhaust of Inverse Diffusion Flames,”*** Proc. Combust. Inst. 29, 2325-2333 (2003).

Brazhnik, K.P., Vreeland, W.N., Howell, P.B., Kishore, R., Wells, J., Helmerson, K., and Locascio, L.E., ***“Manipulating Self-Assembled Nanotubes,”*** Micro Total Analysis Systems 2003, M. Allen Northrup, Klavs Jensen, D.J. Harrison (eds), 689-692 (2003).

Chaychian, M., Jones, C.G., Poster, D.L., Silverman, J., Neta, P., Huie, R., and Al-Sheikhly, M., ***“Radiolytic Dechlorination of Polychlorinated Biphenyls in Transformer Oil and in Marine Sediment,”*** Radiat. Phys. Chem., 65, 473-478 (2002).

Chen-Mayer, H.H., Lamaze, G.P., Coakley, K.J., and Satija, S.K., ***“Two Aspects of Thin Film Analysis: Boron Profile and Scattering Length Density Profile,”*** Nucl. Instrum. Methods, A505, 531-535 (2003).

Chen-Mayer, H.H., Heward, W.J., Paul, R.L., Klug, F.J., and Gao, Y., ***“Distribution of Chlorine in Quartz Determined by Neutron Beam Focusing Prompt Gamma Activation Analysis and Micro X-ray Fluorescence,”*** J. Matls. Res., 18, 2486-2493 (2003).

Choi, H.D., Firestone, R.B., Lindstrom, R.M., Molnar, G.L., Reddy, A.V.R., Tan, V.H., Zhou, C.M., Paviottia-Corcuera, R.A., and Trkov, A., ***“Development of a Database for Prompt Gamma-ray Neutron Activation Analysis,”*** J. Nucl. Sci. Tech., Sup. 2, 1372-1375 (2002).

Choquette, S.J., Blackburn, D.H., Etz, E.S., and Hurst, W.S., ***“Relative Intensity Correction Standards for Raman Spectroscopy for Excitation with Several Common Laser Wavelengths,”*** Amer. Pharm. Rev., 6(2), 74-80 (2003).

Choquette, S.J., O’Neal, L.E., Duewer, D.L., Hanssen, L.M., and Zhu, C., ***“Rare Earth Glass Reference Materials for Near Infrared Spectrometry: Certification of SRM 2065 Band Locations using Multiple Fourier Transform Spectrometers,”*** Appl. Spectrosc. (in press).

Choquette, S.J., Duewer, D.L., and O’Neal, L.E., ***“Rare-Earth Glass Reference Materials for Near Infrared Spectrometry: Correcting and Exploiting Temperature Dependencies,”*** Anal. Chem., 75(4), 961-966 (2003).

Chu, P.M., ***“Advances in Optical Methods for Trace Gas Analysis,”*** Anal. Biochem. Chem. 376, 305 (2003).

Clarke, W.B., Guscott, R., and Lindstrom, R.M., ***“Binding of Lithium and Boron to Human Plasma Proteins II: Results for a Bipolar Not on Lithium Therapy,”*** Biol. Trace Element Res. (in press).

Coakley, K.J., Chen-Mayer, H.H., Lamaze, G.P., Simons, D.S., and Thompson, P.E., ***“Calibration of a Stopping Power Model for Silicon Based on Analysis of Neutron Depth Profiling and Secondary Ion Mass Spectrometry Measurements,”*** Nucl. Instrum. Methods B, 192, 349-359 (2002).

Downing, H.F., Kucklick, J.R., DeLorenzo, M.E., Fulton, M.H., Scott, G.I., and Madden, C.J. ***“Effects of the Agricultural Pesticides Atrazine, Chlorothalonil, and Endosulfan on South Florida Microbial Assemblages,”*** Ecotoxicology (in press).

Ducey, M.W., Orendorff, C.J., Pemberton, J.E., and Sander, L.C., ***“Structure-Function Relationships in High Density Octadecylsilane Stationary Phases by Raman Spectroscopy: 2. Effect of Common Mobile Phase Solvents,”*** Anal. Chem., 74, 5585-5592 (2002).

Duewer, D.L., Choquette, S.J., O’Neal, L., and Filliben, J.J., ***“Rare Earth Glass Reference Materials for Near Infrared Spectrometry: Sources of X-Axis Location Variability,”*** Anal. Chim. Acta, 490(1-2), 85-98 (2003).

Dyar, M.D., Wiedenbeck, M., Robertson, D., Cross, I.R., Delaney, J.S., Ferguson, K., Francis, C.A., Grew, E.S., Guidotti, C.V., Hervig, R.L., Hughes, J.M., Husler, J., Leeman, W., McGuire, A.V., Rhede, D., Roth, H., Paul, R.L., Richard, I., Yates, J., and Yates, M., ***“Reference Minerals for Microanalysis of Light Elements,”*** *Geostandards Newsletter*, 25(2-3), 441-463 (2001).

Etz, E.E., Choquette, S.J., and Hurst, W., ***“Development and Certification of NIST Standard Reference Materials for Relative Raman Intensity Calibration,”*** *European Microbeam Analysis Society*, in Proceedings of the 8th Workshop on Modern Developments and Applications in Microbeam Analysis, Cadiz, Spain, EMAS-2003, 89-103 (2003).

Gibson, W.M., Schultz, A.J., Chen-Mayer, H.H., Mildner, D.F.R., Gnaupel-Herold, T., Miller, M.E., Prask, H.J., Vitt, R., Youngman, R., and Carpenter, J.M., ***“Polycapillary Focusing Optic for Small Sample Neutron Crystallography,”*** *J. Appl. Cryst.*, 35, 677 (2002).

Goodpaster, J.V., Drumheller, B.C., and Benner, B.A., Jr., ***“Evaluation of Extraction Techniques for the Forensic Analysis of Human Scalp Hair Using Gas Chromatography/Mass Spectrometry (GC/MS),”*** *J. Forensic Sci.*, 48(2), 299-306 (2003).

Goodpaster, J.V., Bishop, J.J., Benner, Jr., B.A., ***“Forensic Analysis of Hair Surface Components Using Off-Line Extraction and Large Volume Injection,”*** *J. Sep. Sci.*, 26, 137-141 (2003).

Harner, T. and Kucklick, J.R., ***“Intercalibration Study for the Polychlorinated Naphthalenes (PCNs): Phase I,”*** *Chemosphere*, 51, 555-562 (2003).

Henry, A.C., Ross, D.L, and Locascio, L.E., ***“Covalent Surface Modification of Poly(styrene) Microchannels,”*** *Lab-on-a-Chip*, 2003 (in press).

Henry, A.C., Ross, D.L., and Locascio, L.E., ***“Molecularly Imprinted Stationary Phases for Plastic Microchip-Based Capillary Electrochromatography,”*** *MicroTotal Analysis Systems 2002* Yoshinobu Baba, Shuichi Shoji, Albert van den Berg (eds), 434-436 (2002).

Henry, A.C., Waddell, E., Shreiner, R., and Locascio, L.E., ***“Control of Electroosmotic Flow in Laser Ablated and Chemically Modified Hot Imprinted Polymer Microchannels,”*** *Electrophoresis*, 23(5), 791-798, (2002).

Howard, M.E. and Vocke, R.D. Jr., ***“A Closed System Digestion and Purification Procedure for the Accurate Assay of Chlorine in Fossil Fuels,”*** *J. Anal. At. Spectrom.* (in press).

Jones, C.G., Silverman, J., Al-Sheikhly, M., Neta, P., Poster, D.L., ***“Dechlorination of Polychlorinated Biphenyls in Industrial Transformer Oil by Radiolytic and Photolytic Methods,”*** *Environ. Sci. Technol.* (in press).

Keller, J.M., Kucklick, J.R., and McClellan-Green, P., ***“Organochlorine Contaminants in Loggerhead Sea Turtle Blood: Extraction Techniques and Distribution Among Plasma and Red Blood Cells,”*** *Arch. Environ. Contam. Toxicol.* (in press).

Keller, J.M., Kucklick, J.R., Harms, C.A., and McClellan-Green, P., "**Organochlorine Contaminants in Sea Turtles: Correlations Between Whole Blood and Fat**," Environ. Toxicol. Chem. (in press).

Keller, J.M., "**Occurrence and Effects of Organochlorine Contaminants in Sea Turtles**," Ph.D. Dissertation, Duke University, NC (2003).

Kelly, W.R., Long, S.E., and Stevens, R.K., "**An Estimate of Mercury Emissions to the Atmosphere from U.S. Petroleum Refining**," Environ. Sci. Technol. (in press).

Kelly, W.R., Long, S.E., and Mann, J.L., "**Determination of Mercury in SRM Crude Oils and Refined Products by Isotope Dilution Cold-Vapor ICP-MS Using Closed-System Combustion**," Anal. Bioanal. Chem., 376, 753-758 (2003).

Kelly, W.R., Murphy, K.E., Becker, D.A., and Mann, J.L., "**Determination of Cr in Certified Reference Material HISS-1, Marine Sediment, by Cold Plasma Isotope Dilution ICP-MS and INAA: Comparison of Microwave versus Closed (Carius) Tube Digestion**," J. Anal. At. Spectrom., 8, 166-169 (2003).

Kelly, W.R., "**Low-Sulfur Motor Fuels: Modelling the Effect of Oil Consumption on the Total Sulfur Emission Budget by Monte-Carlo Simulation**," Environ. Sci. and Technol. (in press).

Kline, M.C., Duewer, D.L., Redman, J.W., and Butler, J.M., "**NIST Mixed Stain Study #3: DNA Quantification Practice and its Influence on Short Tandem Repeat Multiplex Performance**," Anal. Chem., 75(10), 2463-2469 (2003).

Kucera, J. and Zeisler, R., "**Low-level Determination of Silicon in Biological Materials Using Radiochemical Neutron Activation Analysis**," J. Radioanal. Nucl. Chem. (in press).

Kucera, J. and Zeisler, R., "**Do We Need Radiochemical Separation in Activation Analysis?**" J. Radioanal. Nucl. Chem. (in press).

Kulin, S., Kishore, R., Helmerson, K., and Locascio, L.E., "**Optical Manipulation of Liposomes as Microreactors**," Langmuir, 19(20), 8206-8210 (2003).

Lamaze, G.P., Chen-Mayer, H.H., Becker, D.A., Vereda, F., Goldner, R.B., Haas, T., and Zerigian, P., "**Cold Neutron Depth Profiling of Lithium Battery Materials**," J. Power Sources, 119-121, 680-682 (2003).

Lindstrom, R.M., Blaauw, M., and Fleming, R.F., "**The Half-life of ^{76}As** ," J. Radioanal. Nucl. Chem., 257(3), 489-491 (2003).

Lindstrom, R.M., "**Using k_0 in PGAA: Perspectives**," J. Radioanal. Nucl. Chem., 257, 557-560 (2003).

Lindstrom, R.M. and Revay, Zs., "**Neutron Beams**," Chapter 2 in Handbook of Prompt-Gamma Activation Analysis, G.L. Molnar, Kluwer (eds) (in press).

Lindstrom, R.M., Blaauw, M., and Unterweger, M., "**The Half-Lives of ^{24}Na , ^{42}K , and ^{198}Au** ," J. Radioanal. Nucl. Chem. (in press).

Lindstrom R.M. and Yonezawa, C., "**Samples and Standards**," Chapter 3 in Handbook of Prompt-Gamma Activation Analysis, G.L. Molnar, Kluwer (eds) (in press).

Lindstrom, R.M., "**An Improved Radiochemical Neutron Activation Analysis Procedure for Trace Mercury**," J. Radioanal. Nucl. Chem. (in press).

Locascio, L.E., "**Fabrication of Polymer Microchannels by Laser Ablation and Hot Embossing**," in Methods in Molecular Biology, Humana Press (in press).

Long, S.E. and Vetter, T.W., "**Determination of Sodium in Blood Serum by Inductively Coupled Plasma Mass Spectrometry**," J. Anal. At. Spectrom. 17, 1599-1594 (2002).

Lynn, J.W., Huang, Q., Brown, C.M., Miller, V.L., Foo, M.L., Schaak, R.E., Jones, C.Y., Mackey, E.A., and Cava, R.J., R.M., "**Structure and Dynamics of Superconducting Na_xCoO_2 Hydrate and Its Unhydrated Analog**," Phys. Rev. B (in press).

MacCrehan, W.A. and Reardon, M.R., "**A Qualitative Comparison of Smokeless Powder Measurements**," J. Forensic Sci., 996-100 (2002).

MacCrehan, W.A., Layman, M.J., and Secl, J.D., "**Hair Combing to Collect Organic Gunshot Residues (OGSR)**," Forensic Sci. Intl., 135(2), 167-173 (2003).

MacCrehan, W.A. and Reardon, M.R., "**NIST Efforts to Quality-Assure Gunpowder Measurements**," Proceedings in the JANNAF 29th Propellant Development and Characterization Meeting, CPIA Publication #697 (2002).

MacCrehan, W.A., Bedner, M., and Helz, G.R., "**Greener Chlorine Wastewater Disinfection Using Alternative Dechlorination Agents**," Proceedings in the 6th Annual Green Chemistry and Engineering Conference, American Chemical Society, 48-53 (2002).

Mackey, E.A., Oflaz, R.D., Epstein, M.S., Buehler, B., Porter, B.J., Rowles, T., Wise, S.A., and Becker, P.R., "**Elemental Composition of Liver and Kidney Tissues of Rough-Toothed Dolphins (*Steno bredanensis*)**," Arch. Environ. Contam. Toxicol., 44, 523-532 (2003).

Mackey, E.A., Anderson, D.L., Liposky, P.J., Lindstrom, R.M., Chen-Mayer, H.H., Lamaze, G.P., Simons, D.S., and Thompson, P.E., "**New Thermal Neutron Prompt Gamma-ray Activation Analysis Instrument at the National Institute of Standards and Technology Center for Neutron Research**," Nucl. Instrum. Methods B (in press).

Maciejczyk, P.B., Zeisler, R., Hwang, J.S., Thurston, G.D., and Chen, L.C., ***“Characterization of Size-Fractionated World Trade Center Dust and Estimation of Relative Dust Contribution to Ambient Concentrations,”*** ACS Symposium Series (in press).

Mann, J., Long, S.E., and W.R. Kelly, ***“Direct Determination of Mercury at Picomole/L Levels in Bottled Water by Isotope Dilution Cold-Vapor Generation Inductively Coupled Plasma Mass Spectrometry,”*** J. Anal. At. Spectrom., 18, 1293-1296 (2003).

Margolis, S.A., Vangel, M., and Duewer, D.L., ***“Certification of SRM 970 Ascorbic Acid in Serum and the Analysis of Associated Interlaboratory Bias in the Measurement Process,”*** Clin. Chem., 49, 463-469 (2003).

Margolis, S.A. and Angelo, J., ***“Interlaboratory Assessment of Measurement Precision and Bias in the Coulometric Karl Fischer Determination of Water,”*** Anal. Biochem. Chem., 374, 505-512 (2002).

Margolis, S.A., Paulsen, J., and Park, E., ***“A Coulometric Method for the Determining Substances that Interfere with the Measurement of Water in Oils and Other Chemicals by the Karl Fischer Method,”*** Anal. Biochem. Chem., 374, 1274-1281 (2002).

Margolis, S.A. and Hagwood, C., ***“The Determination of Water in Crude Oil and Transformer Oil Reference Material,”*** Anal. Bioanal. Chem., 376, 260-269 (2003).

McGuire, S.C., Samuel, M.J., Sulcer, J.D., Lamaze, G.P., and Chen-Mayer, H.H., ***“Neutron Depth Profiling of Boron-Doped Ni₃Al Coatings,”*** Am. Lab. (in press).

Mildner, D.F.R., Chen-Mayer, H.H., and Gibson, W.M., ***“Focusing Neutrons with Tapered Capillary Optics,”*** J. Appl. Phys. (in press).

Mildner, D.F.R., Chen-Mayer, H.H., Gibson, W.M., and Schultz, A.J., ***“A Monolithic Polycapillary Focusing Optic for Polychromatic Neutron Diffraction Applications,”*** in Proceedings for the SPIE Conference, 4785 (in press).

Nelson, B.C. and Sharpless, K.E., ***“Quantification of the Predominant Monomeric Catechins in Baking Chocolate Standard Reference Material by LC/APCI-MS,”*** J. Agric. Food Chem., 51, 531-537 (2003).

Nelson, B.C., Pfeiffer, C.M., Margolis, S.A., and Nelson, C.P., ***“Affinity Extraction Combined with Stable Isotope Dilution LC/MS for the Determination of 5-Methyltetrahydrofolate in Human Plasma,”*** Anal. Biochem., 313, 117-127 (2003).

Nelson, B.C., Pfeiffer, C.M., Sniegowski, L.T., and Satterfield, M.B., ***“Development and Evaluation of an Isotope Dilution LC/MS Method for the Determination of Total Homocysteine in Human Plasma,”*** Anal. Chem., 75, 775-784 (2003).

Nelson, B.C., Pfeiffer, C.M., Margolis, S.A., and Nelson, C.P., ***“Solid Phase Extraction–Electrospray Ionization Mass Spectrometry for the Quantification of Folate in Human Plasma or Serum,”*** Anal. Biochem. (in press).

Orendorff, C.J., Ducey, M.W., Jr., Pemberton, J.E., and Sander, L.C., ***“Structure-Function Relationships in High-Density Octadecylsilane Stationary Phases by Raman Spectroscopy: 3. Effects of Self-Associating Solvents,”*** Anal. Chem., 75, 3360-3368 (2003).

Orendorff, C.J., Ducey, M.W., Jr., Pemberton, J.E., and Sander, L.C., ***“Structure-Function Relationships in High-Density Octadecylsilane Stationary Phases by Raman Spectroscopy: 4. Effects Neutral and Basic Aromatic Compounds,”*** Anal. Chem., 75, 3369-3375 (2003).

Otano-Rivera, W., Messier, R., Pilione, L.J., Santiago, J.J., and Lamaze, G.P., ***“Effect of Al Additions and AlN Interlayers on the Stabilization of cBN Sputtered Thin Films,”*** Diamond Relat. Mater. (in press).

Paul, R.L., ***“Development of a Procedure for Measuring Nitrogen by Cold Neutron Prompt Gamma-ray Activation Analysis,”*** Analyst, 126, 217-221 (2001).

Paul, R.L. and Simons, D.S., ***“Neutron Activation Analysis for Calibration of Phosphorus Implantation Dose,”*** in Characterization and Metrology for ULSI Technology, D.G. Seiler, A.C. Diebold, W.M. Bullies, T.J. Shaffner, R. McDonald, and E.J. Walters (eds.), AIP (American Institute of Physics) Conference Proceedings 550, Melville, NY, 677-681 (2001).

Paul, R.L. and Simons, D.S., ***“Calibration of Phosphorus Implantation Dose in Silicon by Radiochemical Neutron Activation Analysis,”*** in Silicon Front-End Junction Formation Technologies, MRS Symposium Proceedings Vole 717, D.F. Downey, M.E. Law, A. Claverie, M.J. Rendon (eds), Matls. Res. Soc., Warrendale, PA, 291-296 (2002).

Paul, R.L., Simons, D.S., Guthrie, W.F., and Lu, J., ***“Radiochemical Neutron Activation Analysis for Certification of Ion-Implanted Phosphorus in Silicon,”*** Anal. Chem., 75(16), 4038-4033 (2003).

Paul, R.L., Chen-Mayer, H.H., and Myneni, G.R., ***“Determination of Hydrogen in Niobium by Cold Neutron Prompt Gamma-ray Activation Analysis and Neutron Incoherent Scattering,”*** in Hydrogen in Materials and Vacuum Systems, G.R. Myneni, S. Chattopadhyay (eds), AIP (American Institute of Physics) Conference Proceedings 671, 151-161, Melville, NY, (2003).

Paul, R.L., Chen-Mayer, H.H., Myneni, G.R., and Lanford, W., ***“Hydrogen Uptake by High Purity Niobium Studied by Nuclear Analytical Methods,”*** in Proceedings of the 10th International Conference on Ultra-High Purity Metallic-Based Materials (in press).

Phinney, K.W. and Sander, L.C., ***“Enantioselective Separations in Capillary Electrophoresis with Dextran Sulfate as the Chiral Selector,”*** Anal. Bioanal. Chem., 375, 763-768 (2003).

Phinney, K.W. and Sander, L.C., ***“Additive Concentration Effects on Enantioselective Separations in Supercritical Fluid Chromatography,”*** Chirality, 15, 287-294 (2003).

Phinney, K.W. and Sander, L.C., ***“Liquid Chromatographic Method for the Determination of Enantiomeric Composition of Amphetamine and Methamphetamine in Hair Samples,”*** Anal. Bioanal. Chem. (in press).

Pratt, K.W., Buck, R.P., Rondinini, S., Covington, A.K., Baucke, F.G.K., C.M.A. Brett, M.F. Camões, Milton, M.J.T., Mussini, T., Naumann, R., Spitzer, P., ***“Measurement of pH: Definition, Standards, and Procedures,”*** IUPAC Recommendation 2002, *Pure Appl. Chem*, 74, 2169 (2002).

Poster, D.L., Lopez de Alda, M.J., Schantz, M.M., Sander, L.C., Vangel, M.G., and Wise, S.A., ***“Development and Analysis of Three Diesel Particulate Related Standard Reference Materials for the Determination of Chemical, Physical, and Biological Characteristics,”*** Polycyclic Aromat. Compd., 23, 141-191 (2003).

Poster, D.L., Benner, B.A., Jr., Schantz, M.M., Sander, L.C., Vangel, M.G., and Wise, S.A. ***“Determination of Methyl-Substituted Polycyclic Aromatic Hydrocarbons in Diesel Particulate-Related Standard Reference Materials,”*** Polycyclic Aromat. Compd., 23, 113-139 (2003).

Poster, D.L., Kucklick, J.R., Schantz, M.M., Porter, B.J., Leigh, S.D., and Wise, S.A. ***“Determination of Polychlorinated Biphenyl Congeners and Chlorinated Pesticides in a Fish Tissue Standard Reference Material,”*** Anal. Bioanal. Chem., 375, 223-241 (2003).

Poster, D.L., Chaychian, M., Neta, P., Huie, R.E., Silverman, J., Al-Sheikhly, M., ***“Degradation of PCBs in a Marine Sediment Treated with Ionizing and UV Radiation,”*** Environ. Sci. Technol., 37, 3808-3815 (2003).

Reyes, D.R, Perruccio, E., Becerra, S.P., Locascio, L.E., and Gaitan, M., ***“Patterning Retinal Cells on Polyelectrolyte Multilayers,”*** Micro Total Analysis Systems 2003, M. Allen Northrup, Klavs Jensen, D.J. Harrison (eds), 713-716, (2003).

Rhoderick, G.C., ***“Gas Standards Containing Hydrocarbon and Volatile Organic Compounds for Automobile Exhaust and Ambient Air Monitoring,”*** in Proceedings of the 96th Annual Air and Waste Management Association Conference (2003).

Rimmer, C.A., Sander, L.C., Wise, S.A., and Dorsey, J.G., ***“Synthesis and Characterization of C₁₃ to C₁₈ Stationary Phases by Monomeric, Polymeric, and Self-Assembled Monolayer Approaches,”*** J. Chromatogr. A, 1007, 11-20 (2003).

Ross, D. J. and Locascio, L.E., ***“Effect of Caged Fluorescent Dye on the Electroosmotic Mobility in Microchannels,”*** Anal. Chem., 75(5), 1218-1220 (2003).

Ross, D.J., Ivory, C.F., Locascio, L.E., and Van Cott, K.E., ***“Peak Compression and Resolution for Electrophoretic Separations in Diverging Microchannels,”*** Anal. Chem. (in press).

Salit, M.L. and Turk, G.C., ***“Establishing Traceability for the Calibration of Elemental Analysis,”*** Anal. Chem. (in press).

Sander, L.C. and Wise, S.A., ***“A New Standard Reference Material for Column Evaluation in Reversed-Phase Liquid Chromatography,”*** J. Sep. Sci., 26, 283-294 (2003).

Satterfield, M.B., Sniegowski, L.T., Welch, M.J., Nelson, B.C., and Pfeiffer, C.M., ***“Comparison of Isotope Dilution Mass Spectrometry Methods for the Determination of Total Homocysteine in Plasma and Serum,”*** Anal. Chem., 75, 4631-4637 (2003).

Schantz, M.M., Kucklick, J.R., Parris, R.M., and Wise, S.A., ***“NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 2001 Organic Intercomparison Exercises,”*** NISTIR 6837, National Institute of Standards and Technology, Gaithersburg, MD (2002).

Schubert, P., Schantz, M.M., Sander, L.C., and Wise, S.A., ***“Determination of Polycyclic Aromatic Hydrocarbons with Molecular Weight 300 to 302 in Environmental-Matrix Standard Reference Materials by Gas Chromatography-Mass Spectrometry,”*** Anal. Chem., 75, 234-246 (2003).

Sharpe, S.W., Johnson, T.J., Chu, P.M., Kleimeyer, J., and Rowland, B., ***“Quantitative, Infrared Spectra of Vapor Phase Chemical Agents,”*** Proceedings of the International Society for Optical Engineering, Volume 5085, Chemical and Biological Sensing IV, P.J. Gardner (ed.), 19-27 (2003).

Sharpless, K.E., Brown Thomas, J., Nelson, B.C., Phinney, C.S., Sieber, J.R., Wood, L.J., Yen, J.H., and Howell, D.W., ***“Value Assignment of Nutrient Concentrations in Standard Reference Material 2384 Baking Chocolate,”*** J. Agric. Food Chem., 50, 4400-4408 (2002).

Sharpless, K.E., Sander, L.C., and Wise, S.A., ***“Development of Standard Reference Materials for Botanical Supplements,”*** Inside Lab. Mgmt., AOAC International, 37-42 (2003).

Sharpless, K.E., Phinney, C.S., Wood, L.J., Yen, J.H., and Howell, D.W., ***“Value Assignment of Nutrient and Aflatoxin Concentrations in Standard Reference Material 2387 Peanut Butter,”*** J. Agric. Food Chem., 51, 6745-6751 (2003).

Sharpless, K.E., Sander, L.C., Wise, S.A., NguyenPho, A., Lyon, R.C., Betz, J.M., and Ziobro, G.C., ***“Development of Standard Reference Materials for Dietary Supplements,”*** HerbalGram (in press).

Shreiner, R. H., ***“Preparation and Uncertainty Calculations for the Molality-Based Primary Standards for Electrolytic Conductivity,”*** Am. Lab. (in press).

Shreiner, R.H., Brinkmann, F., Dam, N. E., Deák, E., Durbiano, F., Ferrara, E., Fhík, J., Jensen, H. D., Máriássy, M., Spitzer, P., Sudmeier, U., Surdu, M., Vyskočil, L., ***“Primary Methods for the Measurement of Electrolytic Conductivity,”*** Accred. Qual. Assur., 8, 346-353 (2003).

Sieber, J.R., Yu, L.L., Marlow, A.F., and Butler, T.A., ***“Traceability and Uncertainty in Alloy Analysis by Borate Fusion and XRF,”*** X-Ray Spectrom. (in press).

Slater, J.F., Currie, L.A., Dibb, J.E., and Benner, Jr., B.A., ***“Distinguishing the Relative Contribution of Fossil-Fuel and Biomass Combustion Aerosols Deposited at Summit, Greenland through Isotopic and Molecular Characterization of Insoluble Carbon,”*** Atmos. Environ., 36, 4463-4477 (2002).

Struntz, W.D.J., McLellan, W.A., Dillaman, R.M., Blum, J.E., Kucklick, J.R., and Pabst, D.A., ***“Blubber Development in Bottlenose Dolphins (Tursiops truncatus),”*** J. Morph. (in press).

Struntz, W.D.J., Kucklick, J.R., Schantz, M.M., Becker, P.R., McFee, W.E., and Stolen, M.K., ***“Persistent Organic Pollutants in Rough-toothed Dolphins (Steno bredanensis) Sampled During an Unusual Mass Stranding Event,”*** Mar. Pollut. Bull. (in press).

Travis, J.C. and Duewer, D.L., ***“Holmium Oxide Solution as a Prototype Intrinsic Standard in Molecular Absorption Spectrophotometry,”*** in Proceedings of the International Society for Optical Engineering, Volume: 4826 (Fourth Oxford Conference on Spectroscopy), A. Springsteen and M. Pointer (eds), 113-122 (2003).

Travis, J.C., Smith, M.V., and Duewer, D.L., ***“Report of the Results of SIM.QM-P6: UV/Visible Spectrophotometry Wavelength Standard Interlaboratory Comparison,”*** NISTIR 6961, National Institute of Standards and Technology, Gaithersburg, MD (2003).

Vander Pol, S.S., ***“Persistent Organic Pollutants (POPs) in Alaskan Murre (Uria spp.) Eggs,”*** M.Sc. Thesis, Graduate School - College of Charleston, SC (2002).

Vander Pol, S.S., Christopher, S.J., Roseneau, D.G., Becker, P.R., Day, R.D., Kucklick, J.R., Pugh, R.S., Simac, K.S., and York, G.W., ***“Seabird Tissue Archival and Monitoring Project: Egg Collections and Analytical Results for 1999 – 2002,”*** NISTIR 7029, National Institute of Standards and Technology, Gaithersburg, MD (2003).

Vocke, R.L., ***“A Closed System Digestion and Purification Procedure for the Accurate Assay of Chlorine in Fossil Fuels,”*** Anal. Chem.(in press)

Vreeland, W.N. and Locascio, L.E., ***“Nature’s Packaging: Using Bio-Inspired Liposomes for Rapid, High Efficiency Mixing in Microfluidic Systems,”*** MicroTotal Analysis Systems 2003, M. Allen Northrup, K. Jensen, and D.J. Harrison (eds), 37-40 (2003).

Vreeland, W.N. and Locascio, L.E., ***“Using Bio-Inspired Thermally Triggered Liposomes for High Efficiency Mixing and Reagent Delivery in Microfluidic Devices,”*** Anal. Chem. (in press).

Vreeland, W.N., Williams, S.J., Barron, A.E., and Sassi, A.P., ***“Tandem Isotachophoresis-Zone Electrophoresis via Base-Mediated Destacking for Increased Detection Sensitivity in Microfluidic Systems,”*** Anal. Chem. (in press).

Welch, M.J., Sniegowski, L.T., and Tai, S., ***“Two New Standard Reference Materials for Determination of Drugs of Abuse in Human Hair,”*** Anal. Bioanal. Chem., 376, 1205-1211 (2003).

Wilson, N.S., Dolan, J.W., Snyder, L.R., Carr, P.W., and Sander, L.C., "**Column Selectivity in Reversed-Phase Liquid Chromatography IV. Solute Structure and the Physico-chemical Basis of Selectivity**," J. Chromatogr. A (in press).

Winchester, M.R., "**Standards and Reference Materials for Glow Discharge Spectroscopies**," Chapter 12 in Glow Discharge Plasma in Analytical Spectroscopy, R.K. Marcus and J. Broekaert, (eds) John Wiley & Sons, 317-333 (2003).

Winchester, M.R. and Payling R., "**Radio-Frequency Glow Discharge-A Critical Review**," Spectrochim. Acta Reviews (in press).

Wise, S.A., "**Standard Reference Materials (SRMs) for the Determination of Polycyclic Aromatic Compounds – 20 Years of Progress**," Polycyclic Aromat. Compds., 22, 197-230 (2002).

Young, S.K., Trevino, S.F., Beck Tan, N.C., and Paul, R.L., "**Utilization of Prompt Gamma Neutron Activation Analysis in the Evaluation of Various Counterion Nafion Membranes**," J. Poly. Sci. Part B: Polymer Physics (41)3, 1485-1492 (2003).

Yu, L.L., Fassett, J.D., and Lindstrom, A.P., "**Determination of Si in Standard Reference Material SRM 295x Silica on Filter**," J. Anal. At. Spectrom., 18, 738-741, 2003.

Zeisler, R. and Oflaz Demiralp, R., "**The Use of INAA in the Development of Urban Air Particulate Matter SRMs**," J. Radioanal. Nucl. Chem. (in press).

Zeisler, R., Lindstrom, R.M., and Greenberg, R.R., "**Instrumental Neutron Activation Analysis, a Valuable Link in Chemical Metrology**," J. Radioanal. Nucl. Chem. (in press).

Zeisler, R., "**New NIST Sediment SRMs for Inorganic Analysis**," J. Anal. Bioanal. Chem. (in press).

Zeisler, R. and Molnar, G.L., "**Reference Materials**," Section 4 in Handbook of Nuclear Chemistry, 3, Appendix, Kluwer Academic Publishers, Budapest, Hungary (in press).

Zeisler, R., Vajda, N., Lamaze, G.P., and Molnar, G.L., "**Activation Analysis**," Chapter 8 in: Handbook of Nuclear Chemistry, 3, Kluwer Academic Publishers, Budapest, Hungary (in press).

Zhao, L., Robinson, L., Paul R.L., Greenberg, R.R., and Miao, S., "**Determination of Carbon, Nitrogen, and Phosphorus in Cattail (Typha latifolia) by Cold Neutron Prompt Gamma Activation Analysis**," J. Radioanal. Nucl. Chem. (in press).

2. Talks

Arslan, A., "**Converting UV/Vis Spectrophotometer Result Data into SpectroML**," LabAutomation Conference, Palm Springs, CA, February 3, 2003.

Becker, P.R., ***“Trends in Concentrations of Persistent Organic Pollutants in Eggs from Alaskan Murre Colonies,”*** 2nd AMAP International Symposium on Environmental Pollution of the Arctic, Rovaniemi, Finland, October 1, 2002.

Becker, P.R., ***“Trends in Concentrations of Persistent Organic Pollutants in Eggs from Alaskan Murre Colonies,”*** 2nd AMAP International Symposium on Environmental Pollution of the Arctic, Rovaniemi, Finland, October 1, 2002.

Becker, P.R., ***“Contaminant Residues in Murre Eggs from Colonies in the Gulf of Alaska and Bering Sea,”*** 30th Annual Pacific Seabird Group Meeting, Parksville, BC, Canada, February 18, 2003.

Becker, P.R., ***“Contaminants in the Bering Sea and Their Role in Walrus Health,”*** Eskimo Walrus Commission Sponsored Walrus Biomonitoring Workshop, Nome, AK, March 4, 2003.

Becker, P.R., ***“The Role of Alaska Seabirds in Environmental Monitoring: the Seabird Tissue Archival and Monitoring Project (STAMP),”*** Kachemak Bay National Estuarine Research Reserve, Homer, AK, March 10, 2003.

Becker, P.R., ***“The Role of NIST in Marine Mammal Health Research,”*** South East Atlantic Marine Mammal Laboratories (SEAMML) Seminar Series, Marine Resources Research Center, Charleston, SC, April 24, 2003.

Becker, P.R., ***“NIST Charleston Research and Other Activities,”*** Alaska Science Center, U.S. Department of the Interior, Alaska Science Center, Anchorage, AK, July 14, 2003.

Benner, B.A., Jr., ***“Forensic Analysis of Hair Using On-Line and Off-Line Supercritical Fluid Extraction-Gas Chromatography/Mass Spectrometry,”*** University of Maryland, Department of Chemistry and Biochemistry, Analytical, Nuclear, Environmental Seminar Series, Adelphia, MD, November 1, 2002. Invited

Bousquet, R.R., ***“An Assessment of Fourier Transform Microwave Spectroscopy For Environmental Monitoring,”*** 58th International Symposium on Molecular Spectroscopy, Columbus, OH, June 19, 2003.

Brown Thomas, J., ***“Organizing for Success: How to Prepare a Winning Presentation,”*** Graduate Research Workshop, University of Maryland, College Park, MD, March 12, 2003. Invited

Brown Thomas, J., ***“The NIST Summer Undergraduate Research Fellowship Program,”*** Life Sciences Graduate Diversity Partners Program, University of Maryland, College Park, MD, November 22, 2002. Invited

Bunk, D.M., ***“Proteomics Approaches to the Determination of Proteins for Clinical and Food Analysis,”*** National Cancer Institute Seminar Series, Frederick, MD, December 10, 2002. Invited

Bunk, D.M., ***“A Proteomic Approach to the Detection of Genetically Modified Crops,”*** the 2003 Pittsburgh Conference, Orlando, FL, March 10, 2003.

Bunk, D.M., ***“Proteomics Approaches to the Quantification of Proteins for Clinical and Food Analysis,”*** University of Maryland/NIST Seminar Series, College Park, MD, April 25, 2003. Invited

Bunk, D.M., ***“Preparation and Certification of NIST SRM 2921: Human Cardiac Troponin Complex,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin Germany, June 16, 2003.

Chen-Mayer, H.H., ***“Characterization of B, Li, and N in High-tech Materials by Neutron Depth Profiling,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 19, 2002. Invited

Choquette, S.J., ***“Relative Intensity Correction Standards for Raman Spectroscopy with 532 nm, 785 nm, 1064 nm Sources,”*** 29th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 17, 2002.

Choquette, S.J., ***“Near Infrared Activities at NIST,”*** Eastern Analytical Symposium (EAS), Garden State Convention Center, Somerset, NJ, November 19, 2002. Invited

Chu, P.M., ***“Establishing Measurement Traceability of Chemical Weapons Detection,”*** CCG Engineering Working Group Meeting, NIST, Gaithersburg, MD, June 12, 2001. Invited

Day, R.D., ***“Mercury in Loggerhead Sea Turtles, Caretta Caretta: Developing Monitoring Strategies, Investigating Factors Affecting Contamination, and Assessing Health Impacts,”*** 23rd Annual Symposium on Sea Turtle Biology and Conservation, Kuala Lumpur, Malaysia, March 19, 2003.

Day, R.D., ***“Mercury in Loggerhead Sea Turtles, Caretta Caretta: Developing Monitoring Strategies,”*** Carolinas Chapter Meeting of the Society of Environmental Toxicology and Chemistry, Charleston, SC, April 4, 2003.

DeRose, P.C., ***“Considerations on Metal Oxide Doped Glasses as Fluorescent Standard Reference Materials,”*** 29th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 13, 2002.

DeRose, P.C., ***“Development of Fluorescent Glasses as Standard Reference Materials for Modern Fluorometers,”*** the 2003 Pittsburgh Conference, Orlando, FL, March 11, 2003.

DeRose, P.C., ***“Steady State Fluorometers: Calibration and Material Standards,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003. Invited

DeRose, P.C., "***NIST Fluorescence Intensity Standards***," 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003. Invited

DeRose, P.C., "***Fluorescent Glasses as Spectral Emissivity Standards for Modern Fluorometers***," 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003.

DeRose, P.C., "***Measuring Fluorescence: Standards for Modern Fluorometers and Microarray Readers***," University of Applied Sciences, Wiesbaden, Germany, June 20, 2003. Invited

Dorko, W.D., "***Gas Mixture SRMs: What Would We Do Without Them?***" the 2003 Pittsburgh Conference, Orlando, FL, March 12, 2003.

Dorko, W.D., "***Gas Mixture NTRM Economic Impact Study: Some Findings***," the 2003 Pittsburgh Conference, Orlando, FL, March 12, 2003.

Dorko, W.D., "***NIST Traceable Reference Material Program for Gas Standards***," the 96th Annual Air and Waste Management Association Conference, San Diego, CA, June 26, 2003. Invited

Duewer, D.L., "***Robust Determination of Key Comparison Reference Values and Uncertainties***," 2003 Gordon Research Conference in Statistics in Chemistry & Chemical Engineering, South Hadley, MA, July 28, 2003.

Greenberg, R.R., "***Intrinsic Quality Assurance Aspects of Neutron Activation Analysis***," International Conference on Isotopic and Nuclear Analytical Techniques for Health and Environment, Vienna, Austria, June 10, 2003. Invited

Greenberg, R.R., "***Traceability, Comparability, Normalization and Validation of Chemical Measurements***," Minicourse at III Brazilian Congress in Metrology, Recife, Brazil, September 1, 2003. Invited

Greenberg, R.R., "***Evaluating Uncertainties for Chemical Measurements***," 2nd Advanced School on the Expression of Uncertainty in Measurement, Recife, Brazil, September 2, 2003. Invited

Greenberg, R.R., "***Metrology in Chemistry: Current Directions and Challenges***," III Brazilian Congress in Metrology, Recife, Brazil, September 3, 2003. Invited

Guenther, F.R., "***Errors in Variables (EIV)***," CCQM Meeting of the Gas Analysis Group, St. Petersburg, Russia, October 2, 2003.

Guenther, F.R., "***CCQM-P20b, Preparation of o-Xylene Purity Sample***," CCQM Joint Meeting of the Organic and Gas Analysis Working Groups, Pretoria, South Africa, November 18, 2002.

Guenther, F.R., ***“Errors in Variables as Applied to Gas Standard Calibration,”*** the 2003 Pittsburgh Conference, Orlando, Florida, March 14, 2003.

Guenther, F.R., ***“Proof of Corollary 9 to Murphy’s Law; the CCQM Carbon Monoxide in Nitrogen Pilot Study,”*** the 2003 Pittsburgh Conference, Orlando, Florida, March 14, 2003.

Guenther, F.R., ***“CCQM, Gas Analysis Group,”*** Global Climate Change, Carbon Cycle Program, Arlington, VA, May 12, 2003.

Henry, A.C., ***“Molecularly Imprinted Stationary Phases for Plastic Microchip-Based Capillary Electrochromatography,”*** MicroTAS 2002, Nara, Japan, October 2, 2002.

Henry, A.C., ***“Surface Modification and Characterization of Poly(styrene) Sheet Surfaces and Microchannels for Use in Microfluidic Applications,”*** Frederick Conference on Capillary Electrophoresis, Frederick, MD, November 6, 2002.

Henry, A.C., ***“Molecularly Imprinted Stationary Phases for Microfluidic Separation,”*** University of Maryland, College Park, MD, March 7, 2003.

Henry, A.C., ***“Novel Poly(styrene) Microchannels Fabricated using Laser Ablation Protocols,”*** Gordon Research Conference on the Physics and Chemistry of Microfluidics, Big Sky, MT, August 25, 2003.

Henry, A.C., ***“Tailoring Microflow Through Microfluidic Systems,”*** Joint DARPA BioFlips/Symbiosys Principal Investigators' (PI) Meeting; Monterey, CA, September 10, 2003.

Howell, P.B., ***“Microflow Analysis Using Block Copolymer Vesicles,”*** the 2003 Pittsburgh Conference, Orlando, FL, March 12, 2003.

Keller, J.M., ***“Abnormal Vitellogenin Production in vivo and Alterations of Aromatase Activity in vitro Due to Organochlorine Contaminants in Sea Turtles,”*** e.hormone, New Orleans, LA, October 17, 2002.

Keller, J.M., ***“Correlations Between Organochlorine Contaminants and Health Indicators in Loggerhead Sea Turtles,”*** SETAC 23rd Annual Meeting, Salt Lake City, UT, November 16, 2002.

Keller, J.M., ***“Abnormal Vitellogenin Production in vivo and Alterations of Aromatase Activity in vitro Due to Organochlorine Contaminants in Sea Turtles,”*** 23rd Annual Symposium on Sea Turtle Biology and Conservation, Kuala Lumpur, Malaysia, April 3, 2003.

Keller, J.M., ***“Effects of Organochlorine Compounds on Cytochrome P450 Aromatase Activity in an Immortal Sea Turtle Cell Line,”*** 12th International Symposium on Pollutant Responses in Marine Organisms, Tampa, FL, May 9, 2003.

Keller, J.M., ***“Polychlorinated Biphenyls, Organochlorine Pesticides, and Perfluorooctanesulfonate in the Blood of Loggerhead Sea Turtles,”*** 23rd International Symposium on Halogenated Organic Pollutants and Persistent Organic Pollutants, Boston, MA, August 24, 2003.

Kramer, G.W., ***“XML Standards for Analytical Chemistry,”*** NIST CTCMS, NIST Combinatorial Methods Center (NCCM-3): Combinatorial Informatics, Gaithersburg, MD, May 22, 2003.

Kramer, G.W., ***“Analytical Information Markup Language (ANIML) for Spectroscopy and Chromatography Data,”*** 226th American Chemical Society National Meeting, New York, NY, September 10, 2003.

Kucklick, J.R., ***“A Comparison of Organochlorine Concentrations and Patterns in Ringed Seals (Phoca hispida) from Barrow and Nome Alaska,”*** 2nd AMAP International Symposium on Environmental Pollution of the Arctic, Rovaniemi, Finland, October 3, 2002.

Kucklick, J.R., ***“Life History Effects on POPs in Atlantic White-Sided and Rough-Toothed Dolphins,”*** 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 17, 2002.

Kucklick, J.R., ***“Toxaphene and PBDEs in Atlantic White-Sided Dolphins and Rough-Toothed Dolphins,”*** 23rd Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT, November 20, 2002.

Kucklick, J.R., ***“Reference Values for Polybrominated Diphenyl Ether Congeners and Toxaphene in Selected Standard Reference Material,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 17, 2003.

Kucklick, J.R., ***“Concentrations of Polybrominated Diphenyl Ether Congeners and Toxaphene in Selected Marine Standard Reference Materials,”*** 23rd International Symposium on Halogenated Organic and Persistent Organic Pollutants, Boston, MA, August 25, 2003.

Lamaze, G.P., ***“Traceability and Uncertainty for NIST Cold Neutron Depth Profiling Measurements,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 21, 2002. Invited

Lamaze, G.P., ***“Analyses of Thin Films and Surfaces by Cold Neutron Depth Profiling,”*** the 2003 American Physical Society Meeting, Austin, TX, March 3, 2003.

Lindstrom, R.M., ***“A New Database of Neutron Capture Gamma Rays,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 20, 2002. Invited

Lindstrom, R.M., ***“Nonlinear Least-Squares Fitting of Decay Data with a Spreadsheet,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 20, 2002. Invited

Lindstrom, R.M., ***“The Half-Lives of Na-24, K-42, and Au-198,”*** 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 9, 2003.

Lindstrom, R.M., ***“An Improved Radiochemical Neutron Activation Analysis Procedure for Trace Mercury,”*** 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 9, 2003.

Lippa, K.A., ***“Chemometric Studies of Polycyclic Aromatic Hydrocarbon Shape Selectivity in Reversed-Phase Liquid Chromatography,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 24, 2003.

Locascio, L.E., ***“Microfluidic Temperature Gradient Focusing,”*** 26th International Symposium on Capillary Chromatography & Electrophoresis, Las Vegas, NV, May 22, 2003.

Locascio, L.E., ***“Manipulating Nanoscale Reactions in Polymer Microfluidic Systems,”*** Virginia Polytechnic and State University, Blacksburg, VA, October 4, 2002. Invited

Locascio, L.E., ***“Manipulating Nanoscale Reactions in Polymer Microfluidic Systems,”*** Florida State University, Tallahassee, FL, October 11, 2002. Invited

Locascio, L.E., ***“Applications of Liposomes in Microfluidic Systems,”*** American Chemical Society (ACS) National Meeting, New York, NY, September 9, 2003.

Long, S.E., ***“Determination of Mercury in Crude Oil Petroleum Products by Isotope Dilution Cold-Vapor ICP-MS,”*** International Conference on Analytical Sciences and Spectroscopy (ICASS) 2003 Meeting, Ottawa, Canada, June 2, 2003.

MacCrehan, W.A., ***“Smokeless Powder Residue Aging,”*** Middle Atlantic Association of Forensic Scientists (MAAFS), Annapolis, MD, May 5, 2003.

Mackey, E.A., ***“New Thermal Neutron Prompt Gamma-ray Activation Analysis Instrument at NIST,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 18, 2002. Invited

Mackey, E.A., ***“The NIST Biomonitoring Specimen Bank,”*** Northeast Regional Stranding Conference, Yarmouth, MA, April 12, 2003.

Mackey, E.A., ***“Nuclear Methods in Life Sciences Research at the National Institute of Standards and Technology,”*** 1st Coordination Meeting on Perspectives of Life Sciences Research at Nuclear Centers, Riviera, Golden Sand, Bulgaria, September 22, 2003.

Maley, M.D., ***“Reference Materials and Data for the Validation and Calibration of Molecular Absorption Spectrophotometers,”*** Measurement Services Division Lecture Series, NIST, Gaithersburg, MD, May 5, 2003.

May, W.E., ***“Chemical Metrology Program Within the Americas: History and Recent***

Developments,” METRUSOL III, Curitiba-PR-Brazil, October 1, 2002. Invited

May, W.E., “*NIST Program and Practices for Providing Chemical Measurement Traceability: or Mandate and the Impact of Our Work*,” METRUSOL III, Curitiba-PR-Brazil, October 2, 2002. Invited

May, W.E., “*NIST Program and Practices for Providing Chemical Measurement Traceability: Our Mandate and the Impact of Our Work*,” INMETRO, Rio De Janeiro, Brazil, October 7, 2002. Invited

May, W.E., “*Standards for Clinical Diagnostics*,” Chemical Metrology and It’s Impact on Trade and Quality of Life, SIM Metrology Seminar, Santiago, Chile, October 29, 2002. Invited

May, W.E., “*International Infrastructure for Facilitating Traceability and Comparability of Chemical Measurements*,” SADCMET Workshop on the Role of Metrology in Monitoring Food, Health and the Environment in Southern Africa, Pretoria, South Africa, November 20, 2003. Invited

May, W.E., “*SIM Program in Chemical Metrology: Current Activities and Future Plans*,” SADCMET Workshop on the Role of Metrology in Monitoring Food, Health and the Environment in Southern Africa, Pretoria, South Africa, November 20, 2002. Invited

May, W.E., “*University of Maryland, College of Life Sciences Commencement Address*,” University of Maryland, Adelphi, MD, December 21, 2002. Invited

May, W.E., “*NIST Measurement and Standards Programs to Support Climate Change Research*,” Visit of John H. Marburger III, Science Advisor to the President Director, Office of Science and Technology Policy, NIST, Gaithersburg, MD, January 14, 2003. Invited

May, W.E., “*Overview of NIST Program in Chemical Metrology*,” Visit of NMIJ – Japan, National Institute of Public Health – Japan, and Tokyo Metropolitan University – Japan, NIST, Gaithersburg, MD, March 7, 2003. Invited

May, W.E., “*NIST Programs and Practices for Providing Chemical Measurement Traceability: Our Mandate and the Impact of our Work*,” AOAC Board of Directors Meeting, NIST, Gaithersburg, MD, March 24, 2003.

May, W.E., “*Measurements and Standards for Clinical Diagnostics*,” Healthcare Round Table, NIST, Gaithersburg, MD, March 31, 2003. Invited

May, W.E., “*NIST Programs and Practices for Providing Chemical Measurement Traceability: Our Mandate and the Impact of our Work*,” COPANT/SIM Regional Standardization and Metrology Workshop and Symposium, Kingston, Jamaica, May 7, 2003. Invited

May, W.E., "**Requirements for Improved Quality in Clinical Measurements: Role of Standards**," COPANT/SIM Regional Standardization and Metrology Workshop and Symposium, Kingston, Jamaica, May 7, 2003. Invited

May, W.E., "**Higher Order of Reference Methods and Reference Materials for Clinical Diagnostics**," 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003. Invited

May, W.E., "**Summary of Resources Available as a Result of JCTLM Activities**," Manufacturer's Update on the Activities of the Joint Committee for Traceability in Laboratory Medicine, AACC Conference, Philadelphia, PA, July 22, 2003. Invited

May, W.E., "**Chemical Metrology and Its Importance, Scope, and Impact on Trade, Industrial Productivity, and Quality of Life**," Metrology in the Americas, Panama City, Panama, September 16, 2003. Invited

Miller, W.R., "**Evaluation of a Compressed Gas Dilution System**" the 2003 Pittsburgh Conference, Orlando, FL, March 14, 2003.

Nguyen, A.D., "**Importing SpectroML Data into an Access Database**," LabAutomation Conference, Palm Springs, CA, February 3, 2003.

Norris, J.E., "**NIST's Ozone Standards Program**," Taiwan Environment Protection Administration, Taipei, Taiwan R.O.C., November 14, 2002.

Norris, J.E., "**NIST's Ozone Standards Program**," National Institute of Environmental Studies, Tsukuba, Japan, November 20, 2002.

Norris, J.E., "**NIST's Ozone Standards Program**," Korea Research Institute of Standards and Science, Taejon, Korea, November 25, 2002.

Norris, J.E., "**NIST's Ozone Standards Program**," U.S. EPA Radiation and Indoor Environments, Las Vegas, NV, May 15, 2003.

Paul, R.L., "**Measurement of Hydrogen by Cold Neutron Prompt Gamma-ray Activation Analysis**," International Workshop on Hydrogen in Materials and Vacuum Systems, Newport News, VA, November 12, 2002. Invited

Paul, R.L., "**Cold Neutron Prompt Gamma-ray Activation Analysis for Characterization of High-tech Materials**," 2002 American Nuclear Society Winter Meeting, Washington, DC, November 19, 2002. Invited

Paul, R.L., "**Evaluation of Uncertainties in Thermal and Cold Neutron Prompt Gamma-ray Activation Analysis**," 2002 American Nuclear Society Winter Meeting, Washington, DC, November 21, 2002. Invited

Paul, R.L., ***“Hydrogen Uptake by High Purity Niobium Studied by Nuclear Analytical Methods,”*** 10th International Conference on Ultra-High Purity Metallic-Base Materials, Saint-Etienne, France, June 18, 2003. Invited

Parris, R.M., ***“Overview of Study and Results of CCQM-P20b,”*** CCQM Joint meeting of the Organic and Gas Analysis Working Groups, Pretoria, South Africa, November 16, 2003.

Parris, R.M., ***“Considerations and Issues in Defining, Characterizing, Assigning Purity to, and Certifying Reference Standards: A NIST Perspective,”*** 6th Annual Reference Standard Symposium, United States Pharmacopeia, Rockville, MD, October 3, 2002. Invited

Parris, R.M., ***“Metrology in Chemistry,”*** BIPM Metrology Summer School 2003, Sevres, France, July 28, 2003. Invited

Parris, R.M., ***“Dissemination of Traceability in Chemistry,”*** BIPM Metrology Summer School 2003, Sevres, France, July 31, 2003. Invited

Phinney, C.S., ***“Nutritional Standard Reference Materials for Fatty Acids in Foods,”*** American Oil Chemist's Society 94th Annual Meeting and Expo, Kansas City, MO, May 4, 2003.

Phinney, K.W., ***“Comparison of Sulfated Cyclodextrin Chiral Additives for Enantioselective Separations in Capillary Electrophoresis,”*** Frederick Conference on Capillary Electrophoresis, Frederick, MD, October 22, 2002.

Poster, D.L., ***“Cryogenically Homogenized Marine Tissue SRMs for Organic Analysis,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003.

Poster, D.L., ***“Development of Solution and Transformer Oil Standard Reference Materials for Selected Aroclors,”*** 19th National Environmental Monitoring Conference, Crystal City, VA, July 22, 2003.

Poster, D.L., ***“Cryogenically Homogenized Marine Tissue SRMs for Organic Analysis,”*** 19th National Environmental Monitoring Conference, Crystal City, VA, July 23, 2003.

Poster, D.L., ***“Determination of PAHs in New Mussel Tissue and Marine Sediment Standard Reference Materials,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 22, 2003

Poster, D.L., ***“Determination of PAHs in Chars of Wood and Diesel Particulate Matter,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 22, 2003.

Poster, D.L., ***“Determination of PAHs and Nitro-Substituted PAHs in a New Diesel Particulate Standard Reference Material,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 22, 2003.

Pratt, K.W., ***“Final Report and Discussion of Results of Pilot Study CCQM P19.1, Assay of 0.01 mol/kg Hydrochloric Acid,”*** CCQM Joint Meeting of Inorganic and Electrochemistry Working Groups, Ottawa, Canada, October 10, 2002.

Pugh, R.S., ***“Overview of the National Marine Mammal Tissue Bank,”*** Training Session at the Mote Marine Laboratory, Sarasota, FL, February 1, 2003.

Pugh, R.S., ***“Overview of the Archival Specimen Tracking Retrieval Operations (ASTRO) Database,”*** Review and Planning Meeting of the Unusual Mortality Working Group, Hollings Marine Lab, Charleston, SC, February 10, 2003.

Pugh, R.S., ***“Update of the National Marine Mammal Tissue Bank,”*** Review and Planning Meeting for the NMMTB/QA Program, Hollings Marine Laboratory, Charleston, SC, February 12, 2003.

Rhoderick, G.C., ***“Standards Development of Global Warming Gas Species: Methane, Nitrous Oxide, Trichlorofluoromethane and Dichlorodifluoromethane,”*** the 2003 Pittsburgh Conference, Orlando, Florida, March 14, 2003.

Rhoderick, G.C., ***“Gas Standards Containing Hydrocarbon and Volatile Organic Compounds for Automobile Exhaust and Ambient Air Monitoring,”*** the 96th Annual Air and Waste Management Association Conference, San Diego, CA, June 26, 2003.

Rimmer, C.A., ***“The Optimization of Poly(ethylene co-acrylic acid) Stationary Phases for the Separation of Carotenoids,”*** the 2003 Pittsburgh Conference, Orlando, FL, March 9, 2003.

Sander, L.C., ***“Development of Dietary Supplement Standard Reference Materials,”*** the 2003 Pittsburgh Conference, Orlando, FL, March 11, 2003.

Sander, L.C., ***“Use of LC-UV and LC-MS in the Certification of Ephedra-Based Standard Reference Materials,”*** 27th Symposium on High Performance Liquid Phase Separations and Related Techniques, Nice, France, June 19, 2003.

Satterfield, M.B., ***“Measurement of Homocysteine Thiolactone and Homocysteine in Human Plasma by LC/MS/MS,”*** 51st American Society of Mass Spectrometry Conference, Montreal, Quebec, Canada, June 8, 2003.

Satterfield, M.B., ***“New Standard Reference Material for Homocysteine and Folate in Serum,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003.

Schantz, M.M., ***“Interlaboratory Comparison Studies for Characterization of Organic Compounds in Particulate Matter,”*** 21st Annual American Association for Aerosol Research (AAAR) Conference, Charlotte, NC, October 10, 2002.

Schantz, M.M., ***“Current Activities in the Development of Standard Reference Materials for the Forensic Community,”*** Association of Forensic Quality Assurance Managers, Austin, TX, October 24, 2002.

Schantz, M.M., ***“Interlaboratory Comparison Studies for Characterization of Organic Compounds in Particulate Matter,”*** American Association for Aerosol Research (AAAR), Particulate Matter Organic Speciation Working Group Meeting, Pittsburgh, PA, April 2, 2003.

Schantz, M.M., ***“Air and Diesel Particulate Standard Reference Materials – Current Activities,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003.

Schantz, M.M., ***“Current Activities in Environmental Standard Reference Materials for Trace Halogenated Organic Pollutants,”*** 23rd International Symposium on Halogenated Organic Pollutants and Persistent Organic Pollutants, Boston, MA, August 25, 2003.

Sharpless, K.E., ***“Development of Ephedra-Containing Standard Reference Materials,”*** 117th Annual Meeting of AOAC International, Atlanta, GA, September 17, 2003.

Sieber, J.R., ***“High Performance X-Ray Fluorescence Spectrometry: Quantitative Procedures and SRM Applications,”*** Society for Applied Spectroscopy, Reading, PA, January 23, 2002, Invited

Sieber, J.R., ***“Matrix Independent Alloy Analysis using WDXRF and Borate Fusion,”*** ASTM International Committee E01 Meeting, Kansas City, MO, May 6, 2003.

Smith, M.V., ***“Reference Materials and Data for the Validation and Calibration of Molecular Absorption Spectrophotometers,”*** Measurement Services Division Lecture Series, NIST, Gaithersburg, MD, May 5, 2003.

Tai, S.S.-C., ***“Method Development for a New SRM for Hormones in Human Serum,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 16, 2003.

Thorn, W.J., ***“Recent Progress in Stabilizing Low NO_x (<10 μmol/mol) Gas Mixtures in Aluminum Cylinders,”*** the 2003 Pittsburgh Conference, Orlando, Florida, March 14, 2003.

Travis, J.C., ***“Leveraging Measurement Traceability in Dispersive Molecular Absorption Spectrophotometry,”*** Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 17, 2002.

Travis, J.C., Smith, M.V., and Maley, M.D., “**Reference Materials and Data for the Validation and Calibration of Molecular Absorption Spectrophotometers,**” Measurement Services Division Lecture Series, NIST, Gaithersburg, MD, May 5, 2003.

Travis, J.C., “**NIST Traceable Reference Materials for Chemical Spectrophotometry,**” PerkinElmer Instruments, East Brunswick, NJ, October 30, 2002.

Turk, G.C., “**Establishing Traceability in Chemical Measurements,**” the 2003 Pittsburgh Conference, Orlando, FL, March 12, 2003.

Turk, G.C., “**A Practical Tool for Establishing Traceability Between Single-Element Solution Standards,**” CCQM Inorganic Working Group, Paris, France, April 9, 2003.

Turk, G.C., “**Traceability Issues for Elemental Solution Standards,**” Interlaboratory Analysis Program (ILAP), Beaver Creek, CO, July 30, 2003.

Vander Pol, S.S., “**Persistent Organic Pollutants in Alaskan Murre (*Uria spp.*) Eggs,**” College of Charleston, Charleston, SC, October 8, 2002.

Vander Pol, S.S., “**Comparing Persistent Pollutants in Eggs from Two Alaskan Seabird Species,**” SETAC 23rd Annual Meeting, Salt Lake City, UT, November 17, 2002.

Vander Pol, S.S., “**Mercury Concentration Trends in Eggs from Alaskan Murre (*Uria spp.*) Colonies,**” Carolina SETAC Meeting, Charleston, SC, April 4, 2003.

Vander Pol, S.S., “**Contaminant Concentration Trends in Eggs from Alaskan Murre (*Uria spp.*) Colonies,**” Noon Seminar Series at Alaska Science Center, Anchorage, AK, July 14, 2003.

Vetter, T.W., “**High-accuracy Assay of Sodium Oxalate by Titrimetry and Gravimetry,**” the 2003 Pittsburgh Conference, Orlando, FL, March 13, 2003.

Vocke, R.D., Jr., Kelly, W.R., Turk, G.C., “**Accurate Determination of Low Levels of Sulfur In Fuels by IDMS,**” CCQM Inorganic Working Group, Paris, France, April 8, 2003.

Vreeland, W.N., Poster: “**High-Throughput Multiplexed Genotyping by Single Base Extension and End-Labeled Free-Solution Electrophoresis,**” American Institute of Chemical Engineers (AIChE), Fall National Meeting 2002, Indianapolis, IN, November 3, 2002.

Vreeland, W.N., Poster: “**Nature's Packaging: Using Bio-Inspired Liposomes for Mixing in Microfluidic Systems,**” 10th Annual Sigma Xi Postdoctoral Poster Presentation, NIST, Gaithersburg, MD, February 27, 2003.

Vreeland, W.N., Poster: “**High-Efficiency Mixing and Reagent in Microfluidic Devices Using Bio-Inspired Temperature Programmed Liposomes,**” Biochemical Engineering XIII 2003, Boulder, CO, July 21, 2003.

Vreeland, W.N., Poster: ***“Mixing and Reagent in Microfluidic Devices Using Thermally Triggered Liposomes,”*** Gordon Research Conference, Big Sky, MT, August 25, 2003

Welch, M.J., ***“Status of the Metabolites and Substrates Team,”*** Joint Committee on Traceability in Laboratory Medicine (JCTLM) Working Group I Meeting, Geel, Belgium, March 19, 2003.

Welch, M.J., ***“Filling the AOAC triangle with food-matrix Standard Reference Materials: the Addition of Peanut Butter and Spinach,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 17, 2003.

Welch, M.J., ***“Certified Reference Materials and Clinical Utility,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 18, 2003.

Welch, M.J., ***“Nominations for Reference Materials and Reference Methods from the Metabolites and Substrates Team,”*** Joint Committee on Traceability in Laboratory Medicine (JCTLM) Meeting, Sevres, France, June 20, 2003.

Welch, M.J., ***“NIST Activities in Support of the Traceability Requirements of the IVD Directive,”*** Manufacturers’ Update of the Activities of the Joint Committee on Traceability in Laboratory Medicine (JCTLM), Philadelphia, PA, July 22, 2003.

Welch, M.J., ***“Primary Methods for Chemical Analysis,”*** BIPM Metrology Summer School, Sevres, France, July 28, 2003.

Winchester, M.R., ***“Comparison of Pneumatic Nebulization and Electrospray for Aerosolizing Nanoparticles for Differential Mobility Analysis,”*** 21st Annual Conference at the American Association for Aerosol Research Charlotte, NC, October 10, 2002.

Winchester, M.R., ***“Standards and Reference Materials Pertaining to Glow Discharge Optical Emission Spectrometry,”*** International Symposium on GD-OE for Surface Analysis, Keio University Yokohama, Japan, November 21, 2002. Invited

Wise, S.A., ***“Characterization of a PM2.5 Reference Material for the Determination of Organic Constituents,”*** 21st Annual American Association for Aerosol Research (AAAR) Conference, Charlotte, NC, October 8, 2002.

Wise, S.A., ***“Chromatography in the Development of Standard Reference Materials,”*** Department of Chemistry, University of Arizona, Tucson, AZ, November 6, 2002.

Wise, S.A., ***“Development of Standard Reference Materials for Botanical Dietary Supplements,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 18, 2003.

Wise, S.A., ***“Two Decades in the Development of Environmental Matrix SRMs for Organic Contaminants,”*** 9th International Symposium on Biological and Environmental Reference Materials (BERM-9), Berlin, Germany, June 17, 2003.

Wise, S.A., ***“Reference Materials and Quality Assurance for Environmental Measurements,”*** Maryland Environmental Laboratories Association (MELA), Easton, MD, July 31, 2003.

Wise, S.A., ***“Development of Standard Reference Materials for Dietary Supplements,”*** 117th Annual Meeting of AOAC International, Atlanta, GA, September 16, 2003. Invited

Wise, S.A., ***“Standard Reference Materials for the Determination of Polycyclic Aromatic Compounds – Recent Activities,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 23, 2003.

Wise, S.A., ***“Performance-Based Quality Assurance Program for the Determination of PAHs in Marine Tissue and Sediment,”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 23, 2003.

Wise, S.A., ***“Occurrence of PAH Isomers with MW 300 and 302 in Different Environmental-Matrix Standard Reference Materials (SRMs),”*** 19th International Symposium on Polycyclic Aromatic Compounds, Amsterdam, The Netherlands, September 25, 2003.

Wise, S.A., ***“Chromatography and the Development of Standard Reference Materials (SRMs),”*** University of Tuebingen, Tuebingen, Germany, September 29, 2003. Invited

Yu, L.L., ***“Determination of Cobalt and Vanadium in SRM 2783 by HR-ICPMS,”*** Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Providence, RI, October 17, 2002.

Zeisler, R.L., ***“Advances in the Development of Standard Reference Materials for Air Particulate Matter Research,”*** 2002 American Nuclear Society Winter Meeting, Washington, DC, November 19, 2002. Invited

Zeisler, R.L., ***“Low-Level Determination of Silicon in Biological Materials Using Radiochemical Neutron Activation Analysis,”*** 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 8, 2003.

Zeisler, R.L., ***“Signal Processing and Metrological Quality in INAA,”*** 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 8, 2003. Invited

Zeisler, R.L., ***“Instrumental Neutron Activation Analysis, A Valuable Link in Chemical Metrology,”*** 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 9, 2003.

Zeisler, R.L., *“Do We Need Radiochemistry in Activation Analysis?”* 6th International Conference on Methods and Applications of Radiochemical Chemistry, Kona, HI, April 9, 2003.

Zeisler, R.L., *“New NIST Sediment SRMs for Inorganic Analysis,”* 9th International Symposium on Biological and Environmental Reference Materials, Berlin, Germany, June 17, 2003.

Zeisler, R.L., *“NIST Developments in Support of Air Quality Measurements-Inorganic Contaminants,”* 9th International Symposium on Biological and Environmental Reference Materials, Berlin, Germany, June 17, 2003.

3. Cooperative Research Development Agreements (CRADAs) and Consortia
Nova Scientific, “Develop High Speed, High Resolution Neutron Imager Detector”

3a. Guest Researchers (GR)/Research Associates (RA)

Mariana Arce Osuna	CENAM - Mexico
Michael Armani	University of Maryland
Akyut Arslan	Fachhochschule Wiesbaden - Germany
Holly Bamford	University of Maryland
Don Becker	Self
Mary Bedner	University of Maryland
Tim Bertram	University of California-Berkeley
Ronald Bishop	Smithsonian Institution
Doug Blackburn	Self
James Blackman	Smithsonian Institution
Bill Bowman	Self
Marty Burns	Hypertek, Inc.
Richard Christensen	Self
Ronald Cohen	University of California-Berkeley
Bruce Coxon	NIH
Amy Dorsey	George Washington University
Greg Downing	Self
Khaled El-Nagar	NIS - Egypt
Mike Epstein	Mount Saint Mary's College
Jack Fassett	Self
Winthrop B. Feller	Nova Scientific
Brian Galuska	Information Management Resources, Inc.
Jens-Uwe Grabow	Universitat Hannover - Germany
Ryan Hill	North Carolina State University
Peter Howell	Self
Toshi Ihara	NMIJ - Japan
Barbara Jones	Arizona State University
Anna Kalema	Mount Saint Mary's College
Dal-Ho Kim	KRISS - Korea
Jan Kucera	Academy of Sciences of the Czech Republic
John Langland	Self

Melissa Long	American University
Jackie Mann	University of Maryland
Sam Margolis	Self
Nobuhiro Matsumoto	AIST, National Metrology Institute of Japan
Steve McGuire	Southern University and A&M College
Philippe Moussay	BIPM – France
Thi Anh Dao Nguyen	Fachhochschule Wiesbaden - Germany
Gavin O'Connor	LGC - UK
Dominik Poetz	Fachhochschule Wiesbaden - Germany
Hilary Samples	Vanderbilt University
Burkhard Schaefer	Universitaet Kaiserslautern - Germany
Adel Shehata	NIS - Egypt
Annaporna Sriram	Self
Robert Thompson	Oberlin College
Emanuel Waddell	Morgan State University
Felicia Williams	FDA; American University
Takuro Watanabe	AIST, National metrology Institute of Japan
Yung Wu	Self
Li Zhao	Florida A&M University

4. Patent Awards and Applications

None

5. SRM Activities

173c	Al-4V Titanium Alloy Acceptance Testing and Quantitative Analysis	1258a	Aluminum Alloy 6011, Sorting Mixed Populations
185h	Potassium Hydrogen Phthalate pH	1491a	Methyl-Substituted Polycyclic Aromatic Hydrocarbons in Toluene
186g	(formerly SRM 186Ig/186IIg) Phosphate pH	1507b	THC-COOH in Freeze-Dried Urine
191c	(formerly SRM 191c/192c) Carbonate pH	1563	Cholesterol and Fat-Soluble Vitamins in Coconut Oil
723d	Tris (assay)	1588a	Organics in Cod Liver Oil
853a	Aluminum Alloy 3004 (chip form)	1589a	PCBs, Pesticides, and Dioxins/Furans in Human Serum
854a/ 1241c	Aluminum Alloy 5182, Determination of Fifteen Elements	1632c	Trace Elements in Coal
909b	Human Serum	1650b	Diesel Particulate Matter
930	Neutral Glass Filters	1659a	Methane in Air, 10 µmol/mol
956a	Electrolytes in Frozen Serum	1664a	Sulfur Dioxide in Nitrogen, 2500 µmol/mol
965a	Glucose in Frozen Human Serum	1665b	Propane in Air, 3 µmol/mol
966	Toxic Metals in Bovine Blood Level 2	1677c	Carbon Monoxide in Nitrogen, 10 µmol/mol
1240c	Aluminum Alloy 3004 (disk form)	1679c	Carbon Monoxide in Nitrogen, 100 µmol/mol
1255b	Aluminum Casting Alloy 356, Determination of Fifteen Elements	1685b	Nitric Oxide in Nitrogen, 250 µmol/mol
1256b	Aluminum Casting Alloy 380, Determination of Fifteen Elements	1686b	Nitric Oxide in Nitrogen, 500 µmol/mol
1258/			

1687b	Nitric Oxide in Nitrogen, 1000 µmol/mol	2385	Slurried Spinach
1696a	Sulfur Dioxide in Nitrogen, 3500 µmol/mol	2387	Peanut Butter
1727	Anode Tin	2427	Anode Tin
1804	30 component VOC, 5 nmol/mol	2452	Hydrogen in Titanium Alloy
1828b	Ethanol in Water	2453	Hydrogen in Titanium Alloy
1889a	Portland Cement with Fly Ash and Slay Admixture	2454	Hydrogen in Titanium Alloy
1930	Extended Visible Absorbance Filter	2585	Organics in Household Dust
1932	Fluorescein Solution	2619a	Carbon Monoxide in Nitrogen, 0.5 % mol/mol
1941b	Organics in Marine Sediment	2620a	Carbon Monoxide in Nitrogen, 1.0 % mol/mol
1946	Lake Superior Fish Tissue	2621a	Carbon Monoxide in Nitrogen, 1.5 % mol/mol
1947	Lake Michigan Fish Tissue	2622a	Carbon Monoxide in Nitrogen, 2.0 % mol/mol
1951a	Lipids in Fresh-Frozen Human Serum	2627a	Nitric Oxide in Nitrogen, 5 µmol/mol
1951b	Lipids in Fresh-Frozen Human Serum	2629	Homogeneity Testing and Quantitative Analysis
1952a	Cholesterol in Human Serum (Freeze-Dried)	2628a	Nitric Oxide in Nitrogen, 10 µmol/mol
1955	Homocysteine/Folate in Human Serum	2637a	Carbon Monoxide in Nitrogen, 2500 µmol/mol
1974b	Organics in Mussel Tissue (<i>Mytilus edulis</i>)	2646a	Propane in Nitrogen, 1000 µmol/mol
2031	Metal-on-Fused-Silica Filters	2647a	Propane in Nitrogen, 2500 µmol/mol
2036	Near-Infrared Wavelength/Wavenumber Reflectance Standard	2648a	Propane in Nitrogen, 5000 µmol/mol
2037	Solvent Red 24 Diesel Dye	2660a	Oxides of Nitrogen in Air, 100 µmol/mol
2061/		2670a	Toxic Elements in Urine
2062	Determination of Al, Ti, Nb, and W	2696	Silica Fume, Homogeneity Testing and Quantitative Analysis
2065	UV-Visible, Near-Infrared Transmission Wavelength/Vacuum Wavenumber Standard	2702	Inorganic Sediment
2165	Low Alloy Steel E, Stability Testing of Stored Containers	2703	Marine Sediment for Microanalysis
2193a	Calcium Carbonate pH Standard	2720	Di-n-butylsulfide, Homogeneity Testing and Quantitative Analysis
2241	Relative Intensity Correction Standard for Raman Spectroscopy: 785 nm Excitation	2721	Moisture and Sulfur in Crude Oil (Yates Sour)
2242	Relative Intensity Correction Standard for Raman Spectroscopy: 532 nm Excitation	2722	Moisture and Sulfur in Crude Oil (Refugio Sweet)
2243	Relative Intensity Correction Standard for Raman Spectroscopy: 488 nm Excitation	2723	Sulfur in Diesel Fuel
2260a	Aromatic Hydrocarbons in Toluene	2737	0.500 µmol/mol nitric oxide in nitrogen
2285	Arson Test Mixture in Methylene Chloride	2738	1.00 µmol/mol nitric oxide in nitrogen
2379	Drugs of Abuse (Cocaine, Benzoylcocaine, Cocaethylene, Amphetamine, Methamphetamine, and Phenylcyclidine) in Human Hair I	2740	Carbon Monoxide in Nitrogen, 10 % mol/mol
2380	Drugs of Abuse (Morphine, Codeine, Monoacetyl Morphine, and Î9-Tetrahydrocannabinol) in Human Hair II	2741a	Carbon Monoxide in Nitrogen, 13 % mol/mol
		2780	Hard Rock Mine Waste
		2783	Air Particulate Matter on Filter
		2850	Zeolite

2851	Zeolite	3079	Aroclor 1254 in Transformer Oil
2852	Zeolite	3080	Aroclor 1260 in Transformer Oil
2921	Human Cardiac Troponin Complex	3081	Aroclor 1016 in Methanol
2930	Neutral Density Glass (Dark)	3082	Aroclor 1232 in Methanol
2951	Silica on Filter, Determination of Crystalline Silica	3083	Aroclor 1242 in Methanol
2952	Silica on Filter, Determination of Crystalline Silica	3084	Aroclor 1248 in Methanol
2953	Silica on Filter, Determination of Crystalline Silica	3085	Aroclor 1254 in Methanol
2954	Silica on Filter, Determination of Crystalline Silica	3086	Aroclor 1260 in Methanol
2956	Silica on Filter, Determination of Crystalline Silica	3101a	Spectrometric Standard Solution (Al)
2957	Silica on Filter, Determination of Crystalline Silica	3103a	Arsenic Standard Solution 3240 <i>Ephedra sinica</i> Stapf (Aerial Parts)
2958	Silica on Filter, Determination of Crystalline Silica	3190	Aqueous Electrolytic Conductivity 25 μ S
3061	Chloral Hydrate in Methanol	3191	Aqueous Electrolytic Conductivity 100 μ S
3062	Haloacetic Acid Mixture in MTBE	3193	Aqueous Electrolytic Conductivity, 1000 μ S/cm
3063	Dioxin in Methanol	3194	Aqueous Electrolytic Conductivity, 10,000 μ S/cm
3064	Endothall in Water	3195	Aqueous Electrolytic Conductivity, 100,000 μ S/cm
3065	Chlorinated Herbicides in Methanol	3198	Aqueous Electrolytic Conductivity 5 μ S
3066	Chlorinated Herbicides in Methanol	3199	Aqueous Electrolytic Conductivity 15 μ S
3067	Toxaphene in Methanol	3240	<i>Ephedra sinica</i> Stapf (Aerial Parts)
3068	Total Chlordane in Methanol	3241	<i>Ephedra sinica</i> Stapf (Natural Extract)
3069	Organochlorine Pesticides I in Acetone	3242	<i>Ephedra sinica</i> Stapf (Commercial Extract)
3070	Organochlorine Pesticides II in Acetone	3243	Ephedra-Containing Solid Oral Dosage Form
3071	Glyphosate in Water	3244	Ephedra-Containing Protein Powder
3072	Diquat Dibromide in Water		RM 8040, Sodium Oxalate (successor to SRM 40h, Sodium Oxalate)
3073	Carbamates in Vydate in Acetonitrile		
3074	Adipate and Phthalates in Methanol		
3075	Aroclor 1016 in Transformer Oil		
3076	Aroclor 1232 in Transformer Oil		
3077	Aroclor 1242 in Transformer Oil		
3078	Aroclor 1248 in Transformer Oil		

New Primary Standards

Rhoderick, G.C

CF4 and SF6 for CCQM K-15 comparison.

C6 to C16 straight chain alkanes for heavy hydrocarbon feasibility study.

30-component VOC and 18-componet standards to support SRMs 1804 and 1800.

N2O and methane in support of FTIR database and global warming gases.

Pratt, K.W.

HCl-N2 gas mixture cylinder calibrations, ROA 839.03-03-085, April 10, 2003.

Determination of HCl in HCl-N₂ Mixture passed through FTIR cell, May 9, 2003.

Analytical services have been provided for the following

Advanced Micron Devices
Air Force Technical Applications Center
Argonne National Laboratory
Cornell University
Corning Glass Works
Dow Chemical
E.I. DuPont de Nemours & Co., Inc.
Johns Hopkins University
Neutek, Inc.
NIST Center for Neutron Research
Pacific Northwest National Laboratory
Penn State University
Southern University
Texas Instruments
Thomas Jefferson National Accelerator Laboratory
Tufts University
University of California – Berkeley
University of North Texas
University of Puerto Rico
U.S. Army Research Laboratory
X-Ray Optical Systems, Inc.

Gas NTRMs (18) were produced in collaboration with the following companies:

BOC Gases (5)
Scott Specialty Gases (10)
Spectra Gases, Inc. (3)

6. **SRD Activities**
None

7. **Calibrations**

Gas Cylinder (53) Re-certifications have been provided for the following:

Airgas (2)
Air Liquide America Corp. (3)
BOC (19)
Scott Specialty Gases (28)
Spectra Gases (1)

Commercial Ozone Instrument Calibrations have been provided for the following:

Hong Kong EPD; Calibration of Dasibi Model 5008, serial # 151 Calibrator
November 4-5, 2002

PCI-Wedeco, Inc.; Calibration of LC400, serial # 298; ROA # 839.03-03-044.
January 22, 2003

Thermo Electron Nippon Company; Calibration of TEI Model 49CPS, serial # 72971
March 3-5, 2003

Engelhard Corp.; Calibration of Dasibi 1008 AH, serial # 6919 Ozone Analyzer
January 9-10, 2003

NOAA-CMDL; Calibration of TEI 49 CPS, serial # 49 CPS-75573-380 Ozone Calibrator
March 18-19, 2003

Teledyne-API; Calibration of API Model 401 Ozone Calibrator, serial # 152
May 6-7, 2003

Teledyne-API; Calibration of API Model 401 Ozone Calibrator, serial # 254
May 20-27, 2003

Corporate Consulting Service, Inc.; Calibration of OREC Model DM100, serial #'s 318,
and 748
May 28, 2003

Teledyne-API; Calibration of API Model 401 Ozone Calibrator, serial # 260
August 13-14, 2003

NIST Standard Reference Photometer (SRP) Certifications/Re-certifications have been provided for the following:

Taiwan Environment Protection Administration, Kaohsiung, Taiwan R.O.C.
NIST SRP 30 Certification
October 28 – 31, 2002

Environment Canada, Ottawa, Canada
NIST SRP 16 Re-certification
January 6 - 9, 2003

Bureau International des Poids et Mesures (BIPM), Paris, France
NIST SRP 31 and 32 Certifications
April 28 – May 9, 2003

Swiss Federal Laboratories for Materials Testing and Research (EMPA)
NIST SRP 15 Re-certification
August 26 - 29, 2003

Gas Standard Calibrations (138) have been provided for the following:

AGA Specialty Gas, Maumee, OH	(38)
Air Liquide, La Porte, TX	(6)
Battelle Memorial Institute, Columbus, OH	(1)
BOC GASES, Riverton, NJ	(11)
BOC Gases, Royal Oak, MI	(3)
General Motors Corporation, Milford, MI	(8)
Messer Industries, Morrisville, PA	(10)
Missouri Department of Natural Resources, Jefferson City, MO	(1)
National Specialty Gases, Research Triangle Park, NC	(17)
NCAR, Boulder, CO	(2)
PraxAir Distribution, Los Angeles, CA	(10)
Scott Specialty Gas, Inc., Pasadena, TX	(5)
Scott Specialty Gas, Inc., Troy, MI	(15)
Scott-Marrin, Inc., Riverside, CA	(9)
Spectra Gas, Inc., Alpha, NJ	(1)
Utah Department of Environmental Quality, West Valley City, UT	(1)

Optical Filter Recertifications (155) have been provided for the following:

3M Company (3)	Corion Corp. (2)
Abbott Labs	Corixa Corp
Agilent Technologies, Canada	D.D. Williamson, Ltd.
Agilent Technologies, Italy	Davis Inotek Instruments
Agilent Technologies, Austria	Dayton T. Brown, Inc/
Agilent - Dynamex (10)	DIP Italia SRL
Air Quality Services, LLC	DSM Pharmaceuticals, Inc.
Albemarle Corp.	Duke Energy
Alkermes, Inc.	E. Hong Instruments
Alza Corp. (3)	Eastman Kodak Co. (2)
Amgen, Inc. (3)	E.I. DuPont de Nemours & Co.
Analytical Standards AB	Fisher Diagnostics
Analytical Instrument Services	Ft. Dodge Animal Health
Apotex Fermentation	Fujirebio Diagnostics, Inc.
Astra Zeneca (3)	Genzyme Biosurgery (2)
Badger Instruments Services, Inc/	GlaxoSmithKline
Bausch & Lomb	GTD SA
Bayer Corporation (2)	Honeywell (2)
Beckman Coulter	Imclone Systems, Inc.
Berlex	Industrial Technical Services
BioCryst Pharmaceutical, Inc.	J & J Services
BioMerieux, Inc.	Janssen Pharmaceutica NV
Biovail Corporation	Jasco Incorporated
Bristol-Myers Squibb Pharma Co.	JENCK S.A. (2)
Cal Check (2)	Johnson & Johnson Services, Inc. (3)
Celanese Chemicals	Juliette Metrology Laboratory
China Biotech Corp.	Laboratory Management Systems (2)
CHR Hansen, S.A.	Lockheed Martin (2)

Merck
Merck, Germany
Millenium Pharmaceuticals
Milliken Chemical (3)
Monitor Labs, Inc.
Nova Chimica, S.N.C.
Noveon, Inc.
Nu-Tech
OM Pharma
Omega Optical
Ortho Biologics, LLC
Ortho Biotech (7)
Parkedale Pharmaceuticals
Pecon Energia S.A.
Pfizer, Inc. (9)
Pharmacia
Precision Measurement, Inc.
Promochem
Radiometer Medical
Refineria LA Pampilla, SA
Roche Diagnostics

Shimadzu Scientific Instruments
SigmaAldrich
SIMCO Electronics
Soquimica, LDA (2)
SteriGenics (3)
Steris
Stranaska (4)
Techcomp Limited
TEVA Pharmaceuticals (2)
Thermo Electron Corp. (3)
Transcat (4)
TVA/Central Laboratories Svs.
Tyco Healthcare
UOP, Inc.
Visteon Corp. (2)
Watson Pharmaceuticals
Wyeth
Wyeth Pharmaceuticals
Wyeth-Ayerst Laboratories
XOMA
Zygo Corporation

8. Committee Assignments

P.R. Becker

Fort Johnson Five (committee on inter-organizational activities and policies at the Fort Johnson Campus, Charleston, SC)
Hollings Marine Laboratory Science Board
Review Panel for the Florida Protect Wild Dolphins Program (Harbor Branch Oceanographic Institute, Inc.)

J. Brown Thomas

Supervisory Committee, Comstar
CSTL SURF Co-Coordinator
American Chemical Society Presidential Board Task Force for the Advancement of Women in Science and Engineering

D.M. Bunk

Member, NCCLS Subcommittee on Free Thyroid Hormone Measurements
Advisor, NCCLS Area Committee on Clinical Chemistry and Toxicology

T.A. Butler

ACD Safety Committee

S.J. Choquette

ASTM E13, Molecular Spectroscopy

ASTM E13.08, Vice Chair, Raman Spectroscopy

P.M. Chu

Serving on the Interagency Working Group for Carbon Cycle Science Program under the US Global Change Research Program.

ASTM E13.03, Molecular and Infrared Spectroscopy

P.C. DeRose

ACD Safety Committee

ASTM E13, Molecular Spectroscopy

ASTM E13.01, Ultraviolet Spectroscopy

ASTM E13.06, Vice Chair, Luminescence

ASTM E13.90, Executive Subcommittee

ASTM E13.97, Chair, Membership Subcommittee

W.D. Dorko

ASTM D22, Sampling and Analyses of Atmospheres

ASTM SC.03, Ambient Atmospheres

D. L. Duerwer

North American Chapter of the International Chemometrics Society (Membership Secretary)

Quantitative Structure-Activity Society (Chemometrics Liaison)

ASTM E-11, Quality and Statistics

ASTM E-13, Molecular Spectroscopy

ASTM E-13.11, Chemometrics

ACD Safety Committee

R.R. Greenberg

ASTM, E10 Nuclear Technology and Applications

ASTM, SC.05 Nuclear Radiation Metrology

ASTM, WG.12 Nuclear Methods of Chemical Analysis

American Nuclear Society, Executive Committee – Isotopes and Radiation Division

American Nuclear Society, Executive Committee - Biology and Medicine Division

American Nuclear Society, Trace Analysis Committee, Division of Biology and Medicine

International Committee on Activation Analysis

F.R. Guenther

CCQM Working Group on Gas Standards

ASTM D22, Sampling and Analysis of Atmospheres

ASTM SC.03, Ambient Atmosphere

ASTM SC05, Indoor Air

G. W. Kramer

ASTM E13, Molecular Spectroscopy

ASTM E13.01, Ultraviolet and Visible Spectroscopy

ASTM E13.06, Molecular Luminescence
ASTM E13.15, Chair, Analytical Data Management
NCCLS C016, Lab Automation Area Committee

J.R. Kucklick

Fort Johnson Library Committee
NOAA/NOS/CCEHBR Chemistry Committee

G.P. Lamaze

ASTM, Past Chairman, E10 Nuclear Technology and Applications
ASTM, Vice-chair, E10.05 Nuclear Metrology
ASTM, Chair, SC10.92 Awards
ASTM, SC.94 Membership Subcommittee, Nuclear Technology and Applications
ASTM, E42 Surface Analysis
ASTM, Planning Committee for 11th ASTM-EWGRD Symposium on Reactor Dosimetry
American Physical Society, Division of Material Physics, Division of Nuclear Physics,
Topical Group on Fundamental Constants and Precise Tests, Topical Group on Instrument and Measurement Science, Forum on Industrial and Applied Physics, and Forum on Physics and Society

R.M. Lindstrom

Vice-chair, NIST Ionizing Radiation Safety Committee
NIST Reactor Safety Evaluation Committee
k₀ Users Workshop International Scientific Committee
American Nuclear Society Representative to the AAAS Section Committee for Chemistry
International Committee on Activation Analysis

L.E. Locascio

SEMI International MEMS Steering Group
Sigma Xi, Chair, Nominations Committee

W.A. MacCrehan

ASTM E30, Forensics Sciences
ASTM E30.01, Criminalistics
American Chemical Society

L. Mackey

Representative on NVLAP Chemical Calibration Team
ACD Quality Systems Committee (Member)

M. D. Maley

STM E13, Molecular Spectroscopy and Chromotography
STM E13.01, UV-Visible Spectroscopy

W.E. May

External

American Chemical Society; President's Blue Ribbon Panel on Minority Affairs;
Minority Affairs Committee
Consultative Committee on the Quantity of Material, International Treaty of the Meter
Convention; Organic Analysis Working Group (Chair)
Interamerican System for Metrology (SIM); Chemical Metrology Working Group
(Chair)
NCCLS Board of Directors (Member)
Joint Committee on the Traceability of Laboratory Medicine (JCTLM) Co-Chair,
Working Group on Reference Methods and Reference Materials
Advisory Board for Development Opportunities for First Year Students, Tennessee State
University
Peer Review Panel for Chemical Metrology program at CENAM (NMI for Mexico)
Selection Panel for Director, U.S. Weather Service (Member)

Internal

NIST People Council (Member)
SRM Quality Systems Taskforce (Chair)
SES Limited Performance Review Board (Member)

W.R. Miller

ACD Quality Systems Committee (Member)
AIGER Gas Standards Committee

R. Ofiaz

ACD Safety Committee

R.M. Parris

ACD Quality Systems Committee (Member)
Consultative Committee on the Quantity of Material, International Treaty of the Meter
Convention; Organic Analysis Working Group (Rapporteur)
United States Pharmacopeia Council of Experts: Reference Standards Project Team
Washington Chromatography Discussion Group (Secretary, Executive Board)
Representative on NVLAP Chemical Calibration Team
SRM Quality Systems Taskforce (Member)

K.W. Phinney

CSTL Colloquium Committee

B.J. Porter

Representative on NVLAP Chemical Calibration Team
National Children's Study, Repository Workgroup, Co-Chairman

K.W. Pratt

NCCLS Working Group on Reagent Water, currently revising NCCLS Guidelines C3.A4 on
Reagent Water

Member, CCQM Electrochemistry Working Group
Appointed CCQM Electrochemistry Working Group delegate to CCQM Working Group on
Key Comparisons and CMC Quality; 29 April 2003
Member, ASTM Committee D19 (Water)

R.S. Pugh

NOAA/NOS/CCEHBR Laboratory Safety Committee
Hollings Marine Lab Safety, Environmental Compliance, and Security Committee

C.A. Rimmer

Washington Chromatography Discussion Group, Vice President and Co-Program Chair

L.C. Sander

United States Pharmacopeia Working Group on HPLC Columns

M.B. Satterfield

Washington Chromatography Discussion Group, Vice President and Co-Program Chair

K.E. Sharpless

ACD Quality Systems Committee (Member)
CSTL WERB Member and WERB Vice-Chairman
Member, AOAC Food Nutrition Methods Committee
Member, AOAC Dietary Supplements Task Group
Member, AOAC Presidential Task Force on Food Allergens
Secretary of Executive Committee, AOAC Technical Division on Reference Materials
Member, AOAC Reference Material/Matrix Matching Committee
United States Pharmacopeia Advisory Panel on Botanicals

R.H. Shreiner

ACD Safety Committee

J.R. Sieber

ACD Quality Systems Committee (Member)
ASTM E01, Committee on Analysis of Metals, Ores and Related Materials
Subcommittee E01.94 Development of Reference Materials for Chemical Analysis of Metals,
Metal-Bearing Ores and Related Materials (NIST Representative)
Subcommittee E01.20 Fundamental Practices And Measurement Traceability
Subcommittee E01-21 Reference Materials Proficiency Testing and Laboratory
Accreditation

M.V. Smith

ASTM E13, Molecular Spectroscopy and Chromatography
ASTM E13.01, Ultraviolet and Visible Spectroscopy

W.J. Thorn

ASTM F29.01.11 Nitric Oxide Devices

J.C. Travis

ACD Quality Systems Committee (Member)
ASTM E13, Molecular Spectroscopy and Chromatography
ASTM E13.01, Vice-Chair, Ultraviolet and Visible Spectroscopy

T.W. Vetter

Representative on NVLAP Chemical Calibration Team

M.J. Welch

ISO 212 Standards for In Vitro Diagnostic Testing
AACC Troponin Subcommittee
Joint Committee on Traceability in Laboratory Medicine (JCTLM) Organic Working Group,
Chair of Metabolites and Substrates Team

E. White V

NIST Museum Committee
Validation Group for the Updating of the Organization for the Prohibition of Chemical
Weapons Central Analytical Database (U.S. representative), MS Coordinator

S.A. Wise

President-Elect (2001-2003), International Society for Polycyclic Aromatic Compounds
(ISPAC)

R. Zeisler

NIST Member Representative, Committee on the Environment and Natural Resources,
Air Quality Research Subcommittee
American Nuclear Society Executive Committee of the Isotopes and Radiation Division
American Nuclear Society Executive Committee of TC Metrology in Nuclear Methods of
Analysis, Biology and Medicine Division
International Scientific Committee on Nuclear Analytical Methods in the Life Sciences, 6th
International Conference on Methods & Applications of Radioanalytical Chemistry
Technical Program Committee: Methods and Applications of Radioanalytical Chemistry
International Advisory Board 14th Radiochemical Conference
Secretary, International Committee on Activation Analysis

9. Editorships

G.W. Kramer

Journal of the Association for Laboratory Automation (Editorial Review Board)

L.E. Locascio

Analytical Chemistry Editorial Advisory Review Board

D.L. Poster

Polycyclic Aromatic Compounds (Editorial Advisory Board)

L.C. Sander

Journal of Chromatography (Editorial Advisory Board)

J.R. Sieber

News Editor and member of Editorial Advisory Board, X-Ray Spectrometry

M.R. Winchester

ISO TC201 SC8 (Glow Discharge Spectrometry): U.S. Delegate

ISO TC201 SC8 WG1 (Characterization of Coatings): U.S. Expert

ISO TC201 SC1 (Terminology); U.S. Delegate

ASTM E42.92 (ISO US TAG TC201)

S.A. Wise

Analytical and Bioanalytical Chemistry (Editor)

Polycyclic Aromatic Compounds (Topical Editor)

Accreditation and Quality Assurance (Editorial Board)

10. Seminars

November 4, 2002

“Tissue Modulated Raman Spectroscopy of Human Fingertip Capillary Beds: Noninvasive Chemical Analysis of Blood in vivo,” Joseph Chaiken, Syracuse University. (Sponsor: M.J. Welch)

January 9, 2003

“Determination of Country-Of-Origin Of Agricultural Products using Trace Element Concentrations and Multivariate Data Analysis,” Robert S. Schwartz, U.S. Customs Service, VA (Sponsor: G.C. Turk)

January 14, 2003

“International Standards”, Willie May, Frank Guenther, Robert Greenberg, and Reenie Parris, NIST (Sponsor: W.E. May)

February 13, 2003

“Electrolysis Bubble Based Monolithic Microfluid System for Lab-on-a-Chip,” Susan Hua, Center for Bio-MEMS, Department of Physiology and Biophysics, SUNY at Buffalo. (Sponsor: L.E. Locascio)

February 14, 2003

“Development of Proteolytic 18O Labeling Method and Its Application to Acquired Drug-Resistance,” Kristy Reynolds, University of Maryland, Department of Chemistry and Biochemistry. (Sponsor: W.E. May)

March 24, 2003

“Medical and Nutritional Aspects of Analytical Organoselenium Chemistry,” Peter Uden, University of Massachusetts. (Sponsor: S.A. Wise)

April 2, 2003

“Thermodynamic and Kinetic Characterization of Solute Transfer in Reverse-Phase Liquid Chromatography,” Samuel Howerton, Michigan State University. (Sponsor: S.A. Wise)

April 4, 2003

“Nanotube Membranes in Chemical and Biochemical Separations and Sensors,” Sang Bok Lee, University of Maryland, Department of Chemistry and Biochemistry. (Sponsor: W.E. May)

April 4, 2003

“Polybrominated Diphenyl Ethers in Air, Fish, and Human Maternal and Umbilical Cord Blood Samples,” Nathan Dodder, Indiana University. (Sponsor: S.A. Wise)

April 17, 2003

“Laser Induced Breakdown Spectroscopy (LIBS): An Emerging Tool of Exception Versatility,” Andrzej Miziolek, Weapons and Materials Research Directorate Army Research Laboratory. (Sponsor: G.C. Turk)

April 24, 2003

“ISO 17025 With Guide 34: A Model For NIST/Industry SRM Collaborations,” Dean Flinchbaugh, Flinchbaugh Consulting Firm (Sponsor: J.R. Sieber)

May 8, 2003

“Analysis of Chlorinated Pesticides, and PCBs Using Solid Phase Extraction, GC/EDC and Ion Trap MS/MS Confirmation, A Potential New PCB Congener Method,” Wayne J. Whipple, US EPA (Sponsor: D.L. Poster)

May 15, 2003

“Micro-Instrument Activities at the Center for Process Analytical Chemistry (CPAC),” Mel Koch, CPAC, University of Washington (Sponsor: W.E. May)

May 20, 2003

“Analytical Challenges of Aluminum Analysis by Spark Optical Emissions Spectroscopy – The Impact of Standards, Sampling, and Segregation,” Keith Trischan, Alcoa Center. (Sponsor: J.R. Sieber)

June 10, 2003

“Detecting Traces of Fissionable Materials,” Richard Lindstrom, NIST (Sponsor: W.E. May)

June 24, 2003

“Capillary-Channel Polymer (C-CP) Fibers as Stationary Phases for Diverse Chemical

Separations,” Richard K. “Ken” Marcus, Clemson University (Sponsor: S.A. Wise)

July 17, 2003

“Robust Determination of CCQM Key Comparison Reference Values and Uncertainties,” David Duewer, NIST (Sponsor: W.E. May)

August 8, 2003

“Quality Assurance Activities in Charleston, SC,” Paul Becker, NIST (Sponsor: W.E. May)

September 2, 2003

“Pegasus III Time-Of-Flight Mass Spectrometer Including Two Dimensional Gas Chromatography Time-of-Flight Mass Spectrometry,” Fred Glisson, LECO Separation Sciences (Sponsor: D.L. Poster)

September 23, 2003

“The Microanalytical Laboratory Competence Project: CSTL Research Activities in Microfluidics,” Laurie Locascio, Alyssa Henry, Wyatt Vreeland, and David Ross, NIST (Sponsor: W.E. May)

11. Conferences/Workshops/Sessions Sponsored/Co-Sponsored

October 10-11, 2002

“12th Annual SEA Student Technical Conference; SEA: Continuing to Create Opportunities and Access for Science and Engineering Careers in Partnership with DOE, NIST and LLNL,” Washington, DC. (W.E. May)

October 23, 2002

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: BOC Gases and NIST,” Gaithersburg, MD (W.D. Dorko)

November 17-21, 2002

American Nuclear Society 2002 Winter Meeting, session entitled “Quality Assurance in Nuclear Methods of Analysis-Symposium in Memory of Charles (Tommy) Thomas, Jr.,” Omni Shoreham Hotel, Washington, DC (R.R. Greenberg)

November 17-21, 2002

American Nuclear Society 2002 Winter Meeting, session entitled “Nuclear Data-Symposium in Memory of Charles (Tommy) Thomas, Jr.,” Omni Shoreham Hotel, Washington, DC (R.M. Lindstrom)

November 17-21, 2002

American Nuclear Society 2002 Winter Meeting, session entitled “Characterization of High-Tech Materials by Nuclear Techniques,” Omni Shoreham Hotel, Washington, DC (R.L. Paul)

November 17-21, 2002

American Nuclear Society 2002 Winter Meeting, session entitled “Nuclear Measurements in Air Quality Research-I: Symposium in Memory of Charles (Tommy) Thomas, Jr.,” Omni Shoreham Hotel, Washington, DC (R. Zeisler)

November 17-21, 2002

American Nuclear Society 2002 Winter Meeting, session entitled “Nuclear Measurements in Air Quality Research-II: Symposium in Memory of Charles (Tommy) Thomas, Jr.,” Omni Shoreham Hotel, Washington, DC (R. Zeisler)

November 18, 2002

“Approaches for Purity Assessment of o-Xylene,” as part of the CCQM Joint Meeting of the Organic and Gas Analysis Working Groups, Pretoria, South Africa (W.E. May)

December 9, 2002

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: Praxair and NIST,” Gaithersburg, MD (W.D. Dorko)

December 12, 2002

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: Airgas Special Gases and NIST,” Gaithersburg, MD (W.D. Dorko)

December 18, 2002

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: Spectra Gases and NIST,” Gaithersburg, MD (W.D. Dorko)

January 9, 2003

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: Scott Specialty Gases and NIST,” Gaithersburg, MD (W.D. Dorko)

March 12, 2003

“Providing Measurement Results of Known Quality: How do we get there?” A NIST/CITAC Workshop, the 2003 Pittsburgh Conference, Orlando, FL. (W.E. May)

March 12, 2003

“NTRM Gas Standards Producers Workshop, Pittsburgh Conference, Orlando, FL (W.D. Dorko and F.R. Guenther)

March 31, 2003

“PM2.5 Organic Speciation Working Group. Workshop on 2nd Intercomparison Exercise for Organic Contaminants in PM2.5 Air Particulate Matter, Pittsburgh, PA. (M.M. Schantz)

May 12-14, 2003

“North American Carbon Program: Joint PI Meeting 2003,” Arlington, VA. (P.M. Chu)

May 14, 2003

“Microarray Fluorescence Standards Working Group Meeting,” NIST, Gaithersburg, MD. (Sponsor: G.W. Kramer)

June 1-4, 2003

“USP Co-Sponsored Open Conference on Analytical Methods and General USP Topics,” Philadelphia, PA. (R.M. Parris)

June 12, 2003

“CCG Engineering Working Group Meeting,” NIST, Gaithersburg, MD. (P.M. Chu)

June 18, 2003

“Workshops on Calibration Gas Standards Needs and NIST/Industry Collaboration: AGA Gas Inc. and NIST,” Gaithersburg, MD (W.D. Dorko)

June 24, 2003

“Auto Industry Calibration Gas Standards Workshop with NIST and AIGER,” Gaithersburg, MD (W.D. Dorko and F.R. Guenther)

September 21, 2003

Short Course on “Achieving Quality for Polycyclic Aromatic Compound Measurements.” Amsterdam, The Netherlands. (S.A. Wise and D.L. Poster)

September 25, 2003

“Aspects of Analytical Chemistry: An Introductory Tutorial for the IRS,” NIST, Gaithersburg, MD. (W.E. May and G.W. Kramer)

May 14, 2003

“Microarray Fluorescence Standards Working Group Meeting,” NIST, Gaithersburg, MD. (Sponsor: G.W. Kramer)

12. Awards

Michele Schantz received the Analytical Chemistry Division’s Chemical Metrology Award for her outstanding contributions in the development and critical evaluation of analytical methods and standards to support the international trace organic analytical community.

Michele Schantz, Stephen Wise, Wayne Brubaker, Steven Christopher, John Kucklick, Stephen Long, Elizabeth Mackey, Curtis Phinney, Barbara Porter, Dianne Poster, Michael Rearick, Katherine Sharpless, and Silke Tutschku received the CSTL Technical Achievement Award for their contributions to the development of SRM 1946 Lake Superior Fish Tissue.

Franklin Guenther and William Dorko received the Department of Commerce Silver Medal Award for their contributions in the development and implementation of the NIST Traceable Reference Materials (NTRM) Program for gas mixture standards.

Richard Lindstrom received the Department of Commerce Silver Medal Award for his development and delivery of cutting-edge nuclear technology to support national non-proliferation efforts.

Donna Kimball received the Eugene Casson Crittenden Award for her sustained superior contributions in support of programs within the Chemical Science and Technology Laboratory, NIST and the Department of Commerce.

Gregory Turk and Marc Salit received the Department of Commerce Bronze Medal Award for their development, critical evaluation, and application of an innovative, chemometric-based approach to correct for low frequency noise, or drift that has been demonstrated to improve the precision by up to 20-fold.

David Duewer received the 2003 Edward Bennett Rosa Award for his innovative use of visualization techniques to summarize and communicate complex statistical information from interlaboratory DNA profiling and health-related studies, multi-vendor NIST Traceable Reference Material qualification data, and multi-national intercomparison results.

Robert Greenberg, Richard Lindstrom and David Simons received the 2003 Judson C. French Award for their development and critical evaluation of an Instrumental Neutron Activation Analysis Method for the determination of arsenic in silicon, and transferring this technology to the semiconductor industry's chip fabrication lines through their development of a series of Ion Implant in Silicon Depth Profiling SRMs.

Franklin Guenther and Gerald Mitchell received the 2003 NIST Safety Award for Superior Accomplishment based on their development and implementation of an efficient process for inventorying and cataloging the more than 12,000 chemicals used to support research and measurement service activities within the Analytical Chemistry Division.

Rusty D. Day was the Winner of Best Student Presentation 23rd Annual International Symposium on Sea Turtle Biology and Conservation, Kuala Lumpur, Malaysia, March 2003.

Rusty D. Day received the Best Student Presentation 1st Runner-up, Carolinas Chapter Meeting of the Society of Environmental Toxicology and Chemistry, Charleston, SC, April 2003.

Heather Stapleton received the Otto Hutzinger Award for best student presentation at the International Symposium on Halogenated Organic Pollutants, 23rd International Symposium on Halogenated Organic Pollutants and Persistent Organic Pollutants, Boston, MA, August 2003.

13. Intercomparisons

FY03: CCQM Analyses

CCQM-K14	Calcium (Ca) in human serum
CCQM-K18	pH measurement of carbonate buffer solutions
CCQM-K19	pH measurement of borate buffer solutions

CCQM-K20 ^a	pH measurement of tetroxalate buffer solutions
CCQM-K27.a subsequent ^a	Ethanol in aqueous matrix (forensic levels)
CCQM-K28	Tributyltin in sediment
CCQM-P31.a ^a	Organic Solutions: PAHs
CCQM-P31.b ^a	Organic Solutions: PCBs
CCQM-P31.c ^a	Organic Solutions: Chlorinated Pesticides
CCQM-P33	Boron in Silicon
CCQM-P34	Constituents in Aluminum Alloy
CCQM-P39	As, Se & organo Hg in tuna fish (<i>NIST: As, Se, MeHg</i>)
CCQM-P40 ^a	Org. Contaminants in Tissue
CCQM-P41	CO ₂ , CH ₄ - ambient levels
CCQM-P42 ^a	H ₂ S in air/nitrogen
CCQM-P43	DibutylTin in sediment
CCQM-P47	Electrolytic Cond. (low level)

FY03: CCQM Reports

CCQM-K13 subsequent ^a	Cadmium (Cd) and Lead (Pb) in sediments
CCQM-K25 ^a	PCBs in sediments
CCQM-K31 ^a	Arsenic in shellfish
CCQM-P19.1 ^a	Assay of HCl in Solution
CCQM-P25 ^a	Minor elements in steel

FY03 SIM Comparisons

SIM.8.P6 ^a	UV/Visible Spectrophotometry Wavelength Standard (Holmium oxide) [Report]
SIM.8.12P ^a	Automotive Exhaust Emissions
SIM.8.13P ^a	Clinical Diagnostic Markers Series: Cholesterol in Serum
SIM.8.14P ^a	Ethanol in Aqueous Matrix

^a NIST is either a Pilot or Co-Pilot in these intercomparisons.

FY03 Bilaterals

Bilateral with NIES (Japan)

Ozone Measurement Comparisons with the National Institute of Environmental Studies (NIES); NIST SRP vs NIES GPT

Bilateral with NMi (The Netherlands)

Comparison of 18 Component Non-Methane Hydrocarbon Standard, Low concentration Nitric Oxide, and Hydrogen Sulfide

Bilateral with NRC-Canada (Canada)

Comparison of inorganic constituents in marine tissues and sediments

Bilateral with NOAA-Boulder (US)

Comparison of primary gas standards for global warming gases (methane as first PSM).

Intercomparison of methane PSMs with Ed Dlugokencky, NOAA/CMDL, Boulder CO