

## Outputs and Interactions – Analytical Chemistry Division

### 1. Publications

#### 1a. Publications in Print

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).

Becker, D.A. and Mackey, E.A., ***“Analytical Intercomparison on NIST Renewal Pine Needles SRM 1575a,”*** Transactions ANS (2001).

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Bedner, M., MacCrehan, W.A., and Helz, G.R., ***“Improving the Recoveries of Unstable N-Chloramines Determined by Liquid Chromatography-Postcolumn Electrochemical Detection,”*** J. Chrom. Sci. 40(8), 447-455 (2002).

Blackmon, J.C., Raman, S., Dickens, J.C., Lindstrom, R.M., Paul, R.L., and Lynn, J.E., ***“Thermal-neutron Capture by <sup>208</sup>Pb,”*** Phys. Rev. C, 65, 045801-1-9 (2002).

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Christopher, S.J., Vander Pol, S., Pugh, R., Day, R., and Becker, P., "**Determination of Mercury in the Eggs of Common Murres (*Uria aalge*) for the Seabird Tissue Archival and Monitoring Project,**" J. Anal. At. Spectrom., 17, 1-7 (2002).

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#### **1b. Manuscripts in review**

(manuscripts that have been approved by the NIST internal review process and submitted for publication, but have not yet appeared in print)

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

Becker, P.R., Mackey, E.A., Demiralp, R., Epstein, M.S., Donais, M.K., Goessler, W.A., Porter, B.J., and Wise, S.A., *“Heavy Metals and Other Trace Elements Measured in Tissues of Marine Mammals Archived by the Alaska Marine Mammal Tissue Archival Project from the Bering Sea and Cook Inlet, Alaska,”* Proceedings of the International AMAP Workshop on Trends and Effects of Heavy Metals in the Arctic (in press).

Benner, B.A., Jr., Goodpaster, J.V., and DeGrasse, J.A., *“Characterization of Surface Organic Components of Human Hair by On-Line Supercritical Fluid Extraction - Gas Chromatography/Mass Spectrometry: A Feasibility Study,”* Forensic Sci. (in press).

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. (in press).

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. (in press).

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. & Meth. (in press).

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

Choquette, S.J., O'Neal, L., and Duewer, D.L., "**Rare-Earth Glass Reference Materials for Near Infrared Spectrometry: Correcting and Exploiting Temperature Dependencies,**" Anal. Chem. (submitted).

Clarke, W.B., Guscott, R., Downing, R.G., and Lindstrom, R.M., "**Endogenous Lithium and Boron Red Cell to Plasma Ratios: Normal Subjects Versus Bipolar Patients Not on Lithium Therapy,**" Bipolar Disord. (submitted).

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. (submitted).

DaBell, R.S., Chu, P.M., and Fraser, G.T., "**Evaluation of Fourier Transform Microwave Spectroscopy as a Tool for Quantitative Analysis: Signal Stability Considerations,**" Environmental and Industrial Sensing, Proceedings of SPIE (submitted).

En, Z., Brenizer, J.S., Hostica, B., and Becker, D.A., "**Nitrogen Distribution Measurements by Neutron Induced Autoradiography,**" J. Radioanal. Nucl. Chem. (in press).

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. (in press).

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),**" Forensic Sci. (in press).

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Guenther, F.R. and Rhoderick, G.C., "**CCQM-K10 Benzene, Toluene, m-Xylene in Nitrogen,**" Metrologia (submitted).

Guenther, F.R., Rhoderick, G.C., and Miller, W.R., "**CCQM-K7: Benzene, Toluene, m-Xylene, o-Xylene, and Ethylbenzene in Nitrogen,**" Metrologia (submitted).

Henry, A.C., Ross, D., and Locascio, L.E., "**Molecularly Imprinted Stationary Phases for Plastic Microchip-Based Capillary Electrochromatography,**" Proceedings of the MicroTas 2002 Conference (submitted).

Johnson, T.J., Sams, R.L., Blake, T.A., Sharpe, S.W., and Chu, P.A., "**Removing Aperture-Induced Artifacts from FTIR Intensity Values,**" Appl. Optics (submitted).

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**High Resolution ICPMS Paper by A. Makishima and E. Nakamura', "** Anal. Chem. (submitted).

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. Tech. (submitted).

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. (submitted).

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: Comparison of Microwave versus Closed (Carius) Tube Digestion,**" J. Anal. Atom. Spect. (submitted).

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

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 (submitted).

Lindstrom, R.M., Blaauw, M., and Fleming, R.F., "**The Half-life of  $^{76}\text{As}$ ,**" J. Radioanal. Nucl. Chem. (in press).

Lindstrom, R.M., "**Using  $k_0$  in PGAA: Perspectives,**" J. Radioanal. Nucl. Chem. (in press).

Long, S.E. and Vetter, T.W., "**Determination of Sodium in Blood Serum by Inductively Coupled Plasma Mass Spectrometry,**" J. Anal. Atom. Spect. (in press).

MacCrehan, W.A., Bedner, M., and Helz, G.R., "**Greener Chlorine Wastewater Disinfection Using Alternative Dechlorination Agents,**" Proceedings of the 6<sup>th</sup> Annual Green Chemistry and Engineering Conference, ACS Symposium Series (*in press*).

MacCrehan, W.A., Secl, J.D., and Duewer, D.L., "**Graphical Evaluation of Smokeless Powder Association Using Computer-Intensive Statistics,**" J. Forensic Sci. (submitted).

Mackey, E.A., Oflaz, R.D., Epstein, M.S., Buehler, B., Porter, B.J., Rowles, T., Wise, S.A., and Becker, P.R., "**Element Composition of Liver and Kidney Tissues of Rough-toothed Dolphins (*Steno bradanensis*),**" Arch. Environ. Con. Tox. (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,**" Anal. Bioanal. Chem. (submitted).

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

McGuire, S.C., Samuel, M.J., Sulcer, J.D., Lamaze, G.P., and Chen-Mayer, H.H., ***“Neutron Depth Profiling of Boron-Doped Ni<sub>3</sub>Al Coatings,”*** Thin Solid Films (submitted).

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

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 of the SPIE Conference (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. (in press).

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. (in press).

Paul, R.L., ***“Nitrogen in Some Reference Materials by Cold Neutron Prompt Gamma-ray Activation Analysis,”*** Analyst (in press).

Paul, R.L., ***“Reference Minerals for Microanalysis of Light Elements,”*** Geostandard Newslett (in press).

Paul, R.L. and Simons, D.S., ***“Radiochemical Neutron Activation Analysis for Certification of Ion-Implanted Phosphorus in Silicon,”*** Anal. Chem. (submitted).

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

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. (in press).

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

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. (in press).

Rhoderick, G.C., ***“Analysis of Natural Gas – The Necessity of Multiple Standards for Calibration,”*** J. Chrom. (submitted).

Rhoderick, G.C. and Dorko, W.D., ***“Standards Development of Global Warming Gas Species: Methane, Nitrous Oxide, Trichlorofluoromethane and Dichlorodifluoromethane,”*** Environ. Sci. Technol. (submitted).

Ross, D., Olsen, K.G., and Locascio, L.E., ***“Electrokinetic Sample Dilution in Microfluidics,”*** Anal. Chem. (submitted).

Ross, D.J. and Locascio, L.E., ***“Microfluidic Temperature Gradient Focusing,”*** in Proceedings of the MicroTas 2002 Conference (submitted).

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

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. (in press).

Scott, G.I., Kucklick, J.R., Fulton, M.H., Wirth, E.F., Chandler, G.T., Key, P.B., Daugomah, J.W., Bearden, D., Chung, K.W., Strozier, E.D., DeLorenzo, M., Siversten, S., Dias, A., Sanders, M., Macauley, J.M., Goodman, L.R., LaCroix, M.W., and Thayer, G.W., ***“Toxicological Studies in Tropical Ecosystems: An Ecotoxicological Risk Assessment of Pesticide Runoff in South Florida Estuarine Ecosystems,”*** J. Agric. Food Chem. (in press).

Sharpe, S.W., Sams, R.L., Johnson, T.J., Chu, P.M., Rhoderick, G.C., and Guenther, F.R., ***“Creation of 0.10 cm<sup>-1</sup> Resolution, Quantitative Infrared Spectral Libraries for Gas Samples,”*** Environmental and Industrial Sensing, Proceedings of SPIE (submitted).

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. (in press).

Shreiner, R. H., ***“Stability of Standard Electrolytic C solutions in Glass Containers,”*** J. Res. Natl. Inst. Stand. Technol. (in press).

Slater, J.F., Currie, L.A., Dibb, J.E., and Benner, B.A., Jr., ***“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. (in press).

Smeller, J.M., ***“Potassium Bromate Assay by Redox Titrimetry using Arsenic Trioxide,”*** NIST J. of Res. (submitted).

Smeller, J.M., Vetter, T.W., Pratt, K.W., and Beck II, C.M., "**Gravimetric Titrations of Metals with EDTA using Potentiometric End Points,**" *Talanta* (submitted).

Travis, J.C. and Duewer, D.L., "**Holmium Oxide Solution as a Prototype Intrinsic Standard in Molecular Absorption Spectrophotometry,**" in Proceedings of the SPIE 4<sup>th</sup> Oxford Conference on Spectrometry (submitted).

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

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,**" in Glow Discharge Plasma in Analytical Spectroscopy, R.K. Marcus and J. Broekaert (eds.), John Wiley & Sons, Chapter 10 (in press).

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

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. Polym. Sci.* (in press).

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).

## **2. Talks**

Bamford, H.A., "**Estimation of the Temperature Dependence of Henry's Law Constants for Polychlorinated Biphenyls from Experimental Data and Extrathermodynamic Relationships,**" 22<sup>nd</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 13, 2001.

Becker, P.R., "**Comparisons of Contaminant Concentrations in Alaska Marine Mammals and Murres with Concentrations in Similar Species from Other Regions,**" NMFS- sponsored Workshop on Assessing Contaminant Impacts on Steller Sea Lions in Alaska, Anchorage, AK, September 5, 2001. Invited

Becker, P.R., "**NIST Research on Marine Mammals and Seabirds,**" Marine Environmental Studies Program, College of Charleston, Charleston, SC, October 10, 2001. Invited

Becker, P.R., "***Contaminants in Pacific Walrus***," Eskimo Walrus Commission Meeting, Nome, AK, December 14, 2001. Invited

Becker, P.R., "***Environmental Specimen Banking***," Marine Sanctuary Research Coordinators Workshop, Center for Coastal Environmental Health and Biomolecular Research, Charleston, SC, January 31, 2002. Invited

Bedner, M., MacCrehan, W.A., and Helz, G.R., "***Investigating Alternative Dechlorination Agents for Chlorine-Disinfected Sewage Wastewaters Using Liquid Chromatography***," Pittsburgh Conference, New Orleans, LA, March 17, 2002.

Benner, B.A., Jr., "***Trace Evidence Analysis of Human Hair for Surface Organic Components by Gas Chromatography/Mass Spectrometry***," 50<sup>th</sup> Annual Conference on Mass Spectrometry and Allied Topics (ASMS), Orlando, FL, June 3, 2002.

Bunk, D.M., "***Characterizing Clinical Protein Standards Using Mass Spectrometry***," Mini-Symposium on NIST Research in the Biological Sciences, CARB, Rockville, MD, November 11, 2001. Invited

Bunk, D.M., "***Analytical Techniques for Protein Analysis: a NIST Perspective***," Workshop on Genetically Modified Foods: Measurement and Standards Needs, SIM General Assembly Meeting, Miami, FL, December 12, 2001. Invited

Bunk, D.M., "***Validating Protein-Based Testing Methods for Biotechnology Products through Analytical Chemistry***," Mid-Atlantic Regional Meeting of the American Chemical Society, Fairfax, VA, May 29, 2002. Invited

Chen-Mayer, H.H., "***Two Aspects of Thin Film Analysis: Boron Profile and Scattering Length Density Profile***," 10<sup>th</sup> Symposium on Radiation Measurement and Applications, Ann Arbor, MI, May 22, 2002.

Chen-Mayer, H.H., "***Neutron Methods for Measuring Hydrogen Concentration***," Thomas Jefferson National Accelerator Laboratory, Newport News, VA, September 12, 2002.

Choquette, S.J., "***SRM 2241: A Relative Intensity Correction Standard for Raman Spectroscopy with 785 nm Excitation***," Federation of Analytical Chemistry Spectroscopy Societies (FACSS) Conference, Detroit, MI, October 9, 2001.

Choquette, S.J., "***Near Infrared Spectroscopy***," Workshop on Genetically Modified Foods: Measurement and Standards Needs, SIM General Assembly Meeting, Miami, FL, December 10, 2001.

Christopher, S.J., "***NIST/NOAA/MMHSRP Interlaboratory Comparison Exercise Program for Organic Contaminants and Trace Elements in Marine Mammal Tissues (2001)***," 2002 Winter Conference on Plasma Spectrochemistry, Scottsdale, AZ, January 6-12, 2002.

Christopher, S.J., ***“Determination of Mercury in Marine Animals-Current NIST Projects,”*** Center for Coastal Health and Biomolecular Research, Charleston, SC, July 17, 2002.

Chu, P.A., ***“Infrared Absorptivity Temperature Dependence of Gas Phase Methanol and Sulfur Dioxide,”*** SPIE—The International Society for Optical Engineering, Newton, MA, November 1, 2001.

Chu, P.A., ***“The Implementation and Validation of Fourier-Transform Microwave Spectroscopy for the Quantitative Analysis of Chemical Warfare Agents in Air,”*** CCG Engineering Work Group Meeting, NIST, Gaithersburg, MD, December 5-6, 2001. Invited

Chu, P.A., ***“Quality Assurance of Quantitative, Infrared Gas-Phase Spectral Libraries,”*** Pittsburgh Conference, New Orleans, LA, March 2002.

Chu, P.A., ***“Infrared Absorptivity Temperature Dependence of Gas Phase Methanol and Sulfur Dioxide,”*** Pittsburgh Conference, New Orleans, LA, March 2002.

Chu, P.A., ***“The Implementation and Validation of Fourier-Transform Microwave (FT-MW) Spectroscopy for the Quantitative Analysis of Chemical-Warfare Agents in Air,”*** CCG Meeting, Crane, IN, April 23, 2002.

DeRose, P.C., ***“Development of an ‘Off-Road’ Red Diesel Dye Standard Reference Material Using Solvent Red 24,”*** 40<sup>th</sup> Annual Eastern Analytical Symposium, Atlantic City, NJ, October 1, 2001.

DeRose, P.C., ***“Challenges in the Characterization and Certification of an ‘Off-Road’ Diesel Fuel Dye Standard Reference Material 2037 Solvent Red 24,”*** Pittsburgh Conference, New Orleans, LA, March 13, 2002.

Duewer, D.L., ***“Rare-Earth Glass Reference Materials for Near-IR Spectrometry,”*** 8<sup>th</sup> Chemometrics in Analytical Chemistry Conference, Seattle, WA, September 22-26, 2002.  
Goodpaster, J.V., ***“Extraction and Chemical Analysis of Human Scalp Hair as a Novel Trace Evidence Technique,”*** Midwestern Association of Forensic Scientists, Bloomington, MN, September 27, 2001.

Goodpaster, J.V., ***“Evidence That Never Lies: Analytical Chemistry Applied to Human Hair,”*** Gustavus Adolphus College, St. Peter, MN, September 28, 2001. Invited

Goodpaster, J.V., ***“Research in the Field of Forensic Science,”*** American Academy of Forensic Sciences (Young Forensic Scientists Forum), Atlanta, GA, February 12, 2002. Invited

Goodpaster, J.V., ***“Chemical Analysis of Organic Material on the Surface of Human Scalp Hair as a Basis for Forensic Comparisons,”*** American Academy of Forensic Sciences, Atlanta, GA, February 16, 2002.

Goodpaster, J.V., "***Limitations of the Retention Gap Technique for the Injection of Large Sample Volumes in Capillary Gas Chromatography/Mass Spectrometry,***" Pittsburgh Conference, New Orleans, LA, March 18, 2002.

Goodpaster, J.V., "***A New Alternative for Forensic Hair Comparisons: Chemical Analysis of Hair Surface Components Using GC/MS,***" Washington Chromatography Discussion Group, Rockville, MD, April 19, 2002. Invited

Greenberg, R.R., "***Report on Comparison CCQM- P-11, Arsenic in Shellfish,***" Inorganic Working Group of the CCQM Meeting, Geel, Belgium, October 22, 2001.

Greenberg, R.R., "***A Practical Approach for Evaluating the Uncertainties of Instrumental Neutron Activation Analysis Measurements,***" American Nuclear Society 2001 Winter Meeting, Reno, NV, November 13, 2001. Invited

Greenberg, R.R., "***Final Report on Comparison CCQM- P-11, Arsenic in Shellfish,***" Spring CCQM Meeting, Sevres, France, April 15, 2002.

Greenberg, R.R., "***Accuracy and Instrumental Neutron Activation Analysis – How Well Can INA Perform in an International Comparison,***" 7<sup>th</sup> International Conference on Nuclear Analytical Methods in the Life Sciences, Antalya, Turkey, June 18, 2002. Invited

Guenther, F.R., "***Cylinder Gases vs. Dynamic Blending Systems as Reference Standards for Gas Composition Measurement,***" Gas Analysis Symposium and Exhibition 2002, Meenstrat, The Netherlands, February 1, 2002. Invited

Guenther, F.R., "***The NIST Traceable Reference Material Program for Gas Standards,***" Gas Analysis Symposium and Exhibition 2002, Meenstrat, The Netherlands, February 1, 2002. Invited

Henry, A.C., "***Surface Modification and Characterization of Poly(ethylene terephthalate glycol) for use in Microfluidic Technologies,***" LabAutomation 2002, Palm Springs, CA, January 28, 2002.

Henry, A.C., "***Molecularly Imprinted Stationary Phases for Microanalytical Separation Devices,***" Pittsburgh Conference, New Orleans, LA, March 19, 2002.

Henry, A.C., "***Surface Modification and Characterization of Poly(ethylene terephthalate glycol) for Use in Microanalytical Separation Devices,***" Pittsburgh Conference, New Orleans, LA, March 20, 2002.

Henry, A.C., "***Molecularly Imprinted Stationary Phases for Microfluidic Technologies,***" Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCHE), New Orleans, LA, March 25, 2002. Invited

Johnson, T.J., ***“Laser Modification of Channels to Reduce Band Broadening or to Increase Mixing,”*** MicroTas 2001, Monterey, CA, October 24, 2001.

Kramer, G.W., *Short Course: “An Introduction to Laboratory Automation,”* Association for Laboratory Automation, LabAutomation 2002, Palm Springs, CA, January 28, 2002. Invited

Kucklick, J.R., ***“Reference Materials and Quality Assurance Activities to Support Measurements of Persistent Organic Pollutants in the Marine Environment,”*** Pittsburgh Conference, New Orleans, LA, March 19, 2002.

Kucklick, J.R., ***“Contamination of the Marine Environment as Shown in Samples Archived in the National Biomonitoring Specimen Bank,”*** College of Charleston, Biology Department, Charleston, SC, April 1, 2002. Invited

Kucklick, J.R., ***“Toxaphene and PBDEs in White-Sided and Rough-Toothed Dolphins,”*** 22<sup>nd</sup> International Symposium on Halogenated Environmental Organic Pollutants and Persistent Organic Pollutants (POPs), Barcelona, Spain, August 14, 2002.

Kucklick, J.R., ***“Persistent Organic Pollutants in Murre Eggs from the Gulf of Alaska and Bering Sea,”*** 22<sup>nd</sup> International Symposium on Halogenated Environmental Organic Pollutants and Persistent Organic Pollutants (POPs), Barcelona, Spain, August 15, 2002.

Lamaze, G.P., ***“Cold Neutron Depth Profiling of Lithium Battery Materials,”*** 11<sup>th</sup> International Meeting on Lithium Batteries, Monterey, CA, June 25, 2002.

Lamaze, G.P., ***“An Examination of the Stability of Reference Deposits Used for Neutron Fluence Measurements,”*** 11<sup>th</sup> International Symposium on Reactor Dosimetry, Brussels, Belgium, August 22, 2002.

Layman, M.J and MacCrehan, W.A., ***“Hair Sampling for Organic Gunshot Residues (OGSR),”*** 26<sup>th</sup> Annual Meeting of the Middle Atlantic Association of Forensic Scientists,” Frederick, MD, April 26, 2002.

Lindstrom, R.M., ***“Accuracy and Uncertainty in Radiochemical Measurements,”*** Asia-Pacific Symposium on Radiochemistry, Fukuoka, Japan, October 30, 2001. Invited

Lindstrom, R.M., ***“Low-background Activation Analysis,”*** Conference on Underground Science, Lead, SD, October 6, 2001. Invited

Lindstrom, R.M., ***“Neutron Methods for Measuring Hydrogen Concentration,”*** Thomas Jefferson National Accelerator Laboratory, Newport News, VA, September 12, 2002.

Locascio, L.E., ***“Direct Write Lasermicropatterning in Plastic Microfluidic Channels,”*** MEMS Alliance – MEMS Technologies in Microfluidics and RF Application, John Hopkins Applied Physics Lab, Baltimore, MD, November 16, 2001.

Locascio, L.E., "***Patterning Plastic Microchannels to Modulate Flow***," Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), New Orleans, LA, March 25, 2002. Invited

Locascio, L.E., "***Microfluidic Passive Mixing Structures in the symposium entitled Microanalytical Devices and Instrumentation***," SM3 Competence Project Meeting, Boulder, CO, April 4-9, 2002. Invited

Locascio, L.E., "***A Cell-based Microfluidic Sensor to Predict Biofilm Deflocculation Events in Wastewater Treatment Plants***," 5<sup>th</sup> Workshop on Biosensors and Biological Techniques in Environmental Analysis Cornell University, Ithaca, NY, June 4, 2002. Invited

Locascio, L.E., "***Flow Control in Plastic Microfluidic Systems: Modulating Surfaces by Direct Write MicroPatterning***," University of North Carolina Department of Chemistry Seminar Series, Chapel Hill, NC, April 29, 2002. Invited

Locascio, L.E., "***Flow Control in Plastic Microfluidic Systems: Modulating Surfaces by Direct Write MicroPatterning***," GlaxoSmithKline Seminar Series, Research Triangle Park, NC, April 30, 2002. Invited

Locascio, L.E., "Microfluidic Passive Mixing Structures," 201<sup>st</sup> Electrochemical Society Meeting, Philadelphia, PA, May 14, 2002. Invited

Long, S.E., "***Low Level Mercury Measurements of Environmental Biological Samples***," South Eastern Louisiana University Seminar Series, Hammond, LA, February 8, 2002. Invited

MacCrehan, W.A., "***Effective Sampling for Organic Gunshot Residues (OGSR)***," 54<sup>th</sup> Meeting of the American Academy of Forensic Scientists, Atlanta, GA, February 15, 2002.

MacCrehan, W.A., Bedner, M, and Helz, G.R., "***Greener Chlorine Wastewater Disinfection Using Alternative Dechlorination Agents***," 6<sup>th</sup> Annual Green Chemistry and Engineering Conference, Washington, DC, June 26, 2002. Invited

Mackey, E.A., "***Trace Elements in Marine Mammal Tissues Archived in the U.S. National Biomonitoring Specimen Bank***," 11<sup>th</sup> International Symposium on Trace Elements in Man and Animals, Berkeley, CA, June 4, 2002.

Mackey, E.A., "***Neutron Activation Analysis of White-sided Dolphin Liver Tissues from the National Biomonitoring Specimen Bank***," 224<sup>th</sup> National American Chemical Society Meeting, Boston, MA, August 21, 2002.

Mann, J.L., "***Determination of Mercury Content in a Shallow Firm Core from Summit, Greenland Using Isotope Dilution Cold-Vapor Generation Inductively Coupled Plasma Mass Spectrometry***," 2000 Spring AGU Meeting, Washington, DC, May 28, 2002.

Margolis, S.A., “***A Coulometric Method for the Determining Substances That Interfere with the Measurement of Water in Oils and Other Chemicals by the Karl Fischer Method,***” American Petroleum Institute, Austin, TX, March 19, 2002. [Invited](#)

Margolis, S.A., “***A Coulometric Method for the Determining Substances That Interfere with the Measurement of Water in Oils and Other Chemicals by the Karl Fischer Method,***” ASTM D2 Committee Workshop, Montreal, Canada, June 19, 2002. [Invited](#)

May, W.E., “***NIST Reference Methods and Standards for Health Status Markers and Their Impact on Medical Decision-Making and Healthcare Cost,***” Department of Chemistry, Washington and Lee University, Lexington, VA, November 9, 2002. [Invited](#)

May, W.E., “***NIST’s Program in Analytical Chemistry and Its Impact on U.S. Industrial Competitiveness, Trade, and Quality of Life,***” Department of Chemistry, Washington and Lee University, Lexington, VA, November 9, 2002. [Invited](#)

May, W.E., “***NIST Activities in Chemical Metrology and Their Impact on Productivity, Trade, and the Quality of Life,***” IV Symposium of the Latin American and the Caribbean Section of AOAC International, Montevideo, Uruguay, November 22, 2002. [Invited](#)

May, W.E., “***NIST Program in Chemical Metrology and its Impact on U.S. Industrial Competitiveness, Trade, and Quality of Life,***” Northeastern Section American Chemical Society (NEACS), Boston, MA, February 14, 2002. [Invited](#)

May, W.E., “***Impact on NIST SRMs on the Accuracy of Medical Test Results,***” HER2 Standard Assessment Workshop, Gaithersburg, MD, April 30, 2002. [Invited](#)

May, W.E., “***Economic Consequences to Health Care of Poorly Standardized Laboratory Testing***” 2<sup>nd</sup> NCI/EORTC International Meeting on Cancer Diagnostics, Washington, DC, June 28, 2002. [Invited](#)

May, W.E., “***Measurements and Standards for Clinical Diagnostics,***” NCSL, San Diego, CA, August 6, 2002. [Invited](#)

May, W.E., “***NIST’s Program in Chemical Metrology: Addressing Current Needs and Meeting Future Challenges,***” NCSL, San Diego, CA, August 6, 2002. [Invited](#)

Mildner, D.F.R., “***Monolithic Polycapillary Focusing Optic for Polychromatic Neutron Diffraction Applications,***” SPIE Conference 4785, “Advances in Neutron Scattering Instrumentation, Seattle, WA, July 7, 2002.

Mitchell, G.D., “***The Scope of Gas Metrology at the National Institute of Standards and Technology,***” Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCHE), New Orleans, LA, March 25, 2002.

Nelson, B.C., ***“Development of an LC/ESI-MS Method for the Determination of Total Homocysteine in Human Plasma,”*** 50<sup>th</sup> American Society for Mass Spectrometry Conference, Orlando, FL, June 3, 2002.

Nelson, B.C., ***“Development of a Solid-Phase Affinity Extraction LC/MS/MS Method for the Determination of 5-Methyltetrahydrofolic Acid in Human Plasma,”*** 35<sup>th</sup> Middle Atlantic Regional Meeting of the American Chemical Society - George Mason University, Fairfax, VA, May 29, 2002.

Nelson, B.C., ***“Determination of 5-Methyltetrahydrofolic Acid in Plasma by Solid Phase Affinity Extraction and Liquid Chromatography/Electrospray-Ionization Mass Spectrometry,”*** Experimental Biology Meeting 2002, New Orleans, LA, April 22, 2002.

Nelson, B.C., ***“Development and Evaluation of LC/MS and LC-MS/MS Methods for the Determination of Total Homocysteine in Human Plasma,”*** Experimental Biology Meeting 2002, New Orleans, LA, April 22, 2002.

Nelson, C.P., ***“Standardization of Sample Preparation Techniques Used in Analyzing Microorganisms by MALDI-TOF Mass Spectrometry,”*** 14<sup>th</sup> Sanibel Conference on Mass Spectrometry, Sanibel Island, FL, January 27, 2002.

Nelson, C.P., ***“Standardization of Sample Preparation Techniques used in Analyzing Microorganisms by MALDI-TOF Mass Spectrometry,”*** 50<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, FL, June 6, 2002.

Norris, J.E., ***“Current Status of NIST’s Ozone Standards Program,”*** Instituto de Salud Carlos III (ISCIII), Madrid, Spain, October 18, 2001.

Norris, J.E., ***“Current Status of NIST’s Ozone Standards Program,”*** Swiss Federal Office of Metrology and Accreditation (metas), Bern, Switzerland, December 6, 2001.

Norris, J.E., ***“Current Status of NIST’s Ozone Standards Program,”*** Umweltbundesamt-Austria (UBA-Austria), Vienna, Austria, December 13, 2001.

Norris, J.E., ***“Update of NIST’s Ozone Standards Program,”*** Umweltbundesamt-Germany (UBA-Germany), Langen, Germany, August 1, 2002.

Norris, J.E., ***“Update of NIST’s Ozone Standards Program,”*** U.S. EPA Radiation and Indoor Environments National Laboratory, Las Vegas, NV, August 22, 2002.

Parris, R.M., ***“Chemical Metrology and Its Impact on Competitiveness, Trade and Quality of Life,”*** SIM Workshop on Chemical Metrology Santiago, Chile, October 16, 2001.

Parris, R.M., ***“Reference Materials & Their Role in Providing Traceability for Chemical Measurements,”*** NATA Reference Materials & Your Laboratory Symposium, Sydney, Australia, November 30, 2001. Invited

Parris, R.M., "**Reference Materials & Their Role in Providing Traceability for Chemical Measurements**," NATA Reference Materials & Your Laboratory Symposium, Melbourne, Australia, December 5, 2001. Invited

Parris, R.M., "**Assuring the Quality of Reference Materials and Proficiency Testing Schemes**," Pittsburgh Conference, New Orleans, LA, March 17, 2002. Invited

Parris, R.M., "**Facilitating National and International Recognition and Acceptance of U.S. Chemical Measurements: NIST Roles, Services, and Their Impact**," 116<sup>th</sup> AOAC International Annual Meeting, Los Angeles, CA, September 25, 2002. Invited

Paul, R.L., "**Calibration of Phosphorus Implantation Dose in Silicon by Radiochemical Neutron Activation Analysis**," Materials Research Society Spring Meeting, San Francisco, CA, April 4, 2002.

Paul, R.L., "**Development of Radiochemical Procedure for Certification of Phosphorus Implantation Dose in Silicon**," 14<sup>th</sup> Radiochemical Conference, Marianske Lazne, Czech Republic, April 16, 2002.

Paul, R.L., "**Neutron Methods for Measuring Hydrogen Concentration**," Thomas Jefferson National Accelerator Laboratory, Newport News, VA, September 12, 2002.

Phinney, C.S., "**New Standard Reference Materials for Fatty Acids in Foods**," 116<sup>th</sup> AOAC International Annual Meeting, Los Angeles, CA, September 25, 2002.

Phinney, K.W., "**Comparison of Sulfated Cyclodextrin Chiral Additives for Enantioselective Separations in Capillary Electrophoresis**," 26<sup>th</sup> International Symposium on High Performance Liquid Chromatography Separations and Related Techniques, Montreal, Canada, June 5, 2002.

Phinney, K.W., "**Drugs of Abuse in Human Hair: Determination of the Enantiomeric Ratios of Amphetamine and Methamphetamine by Liquid Chromatography**," 26<sup>th</sup> International Symposium on High Performance Liquid Chromatography Separations and Related Techniques, Montreal, Canada, June 6, 2002.

Porter, B.J., "**Development of the National Biomonitoring Specimen Bank (NBSB)**," International Society of Biological and Environmental Repositories, Boston, MA, May 6, 2002.

Porter, B.J., "**Tissue Collection Protocol and Techniques for the National Marine Mammal Tissue Bank**," New England Aquarium, Boston, MA, May 8, 2002.

Porter, B.J., "**Tissue Collection Protocol and Techniques for the National Marine Mammal Tissue Bank**," Northeast Regional Stranding Network Annual Meeting and Conference, Mystic Aquarium, Mystic, CT, May 10, 2002.

Porter, B.J., "**Status of the Repository Workgroup**," 2<sup>nd</sup> Meeting of the National Children's Study of Environmental Effects on Health Advisory Committee (NCSAC), Bethesda, MD, June 14, 2002.

Poster, D.L., "***Dechlorination by Radiation and UV Degradation of Industrial Transformer Oil Containing Polychlorinated Biphenyls Using Triethylamine and 2-Propanol***," 22<sup>nd</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 12, 2001.

Poster, D.L., "***Development of Solution and Transformer Oil Reference Materials for Selected Aroclors***," 22<sup>nd</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 12, 2001.

Poster, D.L., "***Determination of Polychlorinated Biphenyl Congeners (PCBs) in a New Fish Tissue Standard Reference Material***," 22<sup>nd</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD, November 12, 2002.

Poster, D.L., "***Determination of Polychlorinated Biphenyl Congeners (PCBs), Chlorinated Pesticides, and Polycyclic Aromatic Hydrocarbons (PAHs) in a Mussel Tissue Standard Reference Material***," 18<sup>th</sup> Annual Waste Testing and Quality Assurance Symposium, Arlington, VA, August 14, 2002.

Pratt, K.W., "***Status Report of Protocol for Pilot Study CCQM-P19.1, Assay of 0.01 mol/kg Hydrochloric Acid***," Inorganic Working Group of the CCQM Meeting, Geel, Belgium, October 22, 2001.

Pratt, K.W., "***Status Report of Protocol for Pilot Study CCQM-P19.1, Assay of 0.01 mol/kg Hydrochloric Acid***," Spring CCQM Meeting, Sevres, France, April 15, 2002.

Pugh, R.S., "***National Marine Mammal Tissue Bank***," 14<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Vancouver, Canada, December 3, 2001.

Pugh, R.S., "***Seabird Tissue Archival and Monitoring Program (STAMP)***," International Society of Biological and Environmental Repositories, Boston, MA, May 7, 2002.

Pugh, R.S., "***Tissue Collection Protocol and Techniques for the National Marine Mammal Tissue Bank***," The Marine Mammal Center, Sausalito, CA, July 18, 2002.

Rimmer, C.A., "***Effects of Phase Length and Bonding Chemistry in Reversed Phase Liquid Chromatography***," 26<sup>th</sup> International Symposium on High Performance Liquid Chromatography Separations and Related Techniques, Montreal, Canada, June 6, 2002.

Salit, M.L., "***Designing an ICP-OES Experiment from the Uncertainty Budget Back***," Federation of Analytical Chemistry Spectroscopy Societies (FACSS) Conference, Detroit, MI, October 11, 2001.

Sander, L.C., "***Development of Methods for the Characterization of Herbal Supplement Standard Reference Materials***," 26<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques, Montreal, Canada, June 3, 2002.

Satterfield, M.B., ***“The Accurate Determination of Total Homocysteine in Blood by Isotope Dilution LC/MS/MS and GC/MS,”*** 35<sup>th</sup> Middle Atlantic Regional Meeting of the American Chemical Society, George Mason University, Fairfax, VA, May 29, 2002.

Satterfield, M.B., ***“Comparison of Commercially Available Prostate-Specific Antigen Samples by MALDI and ESI-MS,”*** 50<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, FL, June 5, 2002.

Schantz, M.M., ***“Performance-Based Quality Assurance Program for the Determination of PAHs, PCB Congeners, and Chlorinated Pesticides in Marine Tissue and Sediment Samples,”*** American Academy of Forensic Sciences, Atlanta, GA, February 15, 2002.

Schantz, M.M., ***“Recent SRMs for the Determination of Organic Contaminants in Environmental Matrices,”*** Biological Reference Materials for Organic Contaminants (BROC) Feasibility Workshop, Stockholm, Sweden, March 22, 2002.

Schantz, M.M., ***“Recent Advances in the Development of Environmental Matrix Standard Reference Materials,”*** EnviroAnalysis 2002, Toronto, Canada, May 28, 2002.

Schantz, M.M., ***“Performance-Based Quality Assurance Program for Organic Contaminants in Bivalves, Fish, Marine Sediment, Marine Mammals, and Air Particulate Matter,”*** EnviroAnalysis 2002, Toronto, Canada, May 28, 2002.

Secl, J.D., ***“A Graphical Approach to Questioned and Know Sample Comparisons of Smokeless Powder,”*** 54<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Atlanta, GA, February 15, 2002.

Sharpless, K.E., ***“Development of Standard Reference Materials for Dietary Supplements,”*** Dietary Supplements Analytical Methods Workshop, NIH Natcher Center, Bethesda, MD, April 18, 2002. Invited

Sharpless, K.E., ***“How Can I Use NIST’s Food-Matrix Standard Reference Materials?”*** 116<sup>th</sup> AOAC International Annual Meeting, Los Angeles, CA, September 25, 2002.

Shreiner, R.H., ***“Stability of Standard Electrolytic Conductivity Solutions in Various Packaging Types,”*** Pittsburgh Conference, New Orleans, LA, March 19, 2002.

Shreiner, R.H., ***“Electrolytic Conductivity at NIST,”*** EUROMET – 632 ‘Experts Workshop on Electrolytic Conductivity Measurement,’ NMi, Delft, Netherlands, October 18, 2001. Invited

Sieber, J.R., ***“Update of NIST SRM Projects and Policies,”*** ASTM International, Pittsburgh, PA, May 6, 2002.

Sieber, J.R., ***“Matrix-Independent Methods,”*** Philips Analytical X-Ray Company, Almelo, The Netherlands, June 13, 2002. Invited

Sieber, J.R., "***Contributions by WDXRF in the NIST Analytical Chemistry Division,***" European EDXRS Conference, Berlin, Germany, June 18, 2002. Invited

Sieber, J.R., "***Update of NIST SRM Projects and Policies,***" Analytical Reference Materials International ILAP 2002, Vail, Colorado, July 26, 2002. Invited

Sieber, J.R., "***Values and Uncertainties on NIST Certificates of Analysis,***" Analytical Reference Materials International ILAP 2002, Vail, Colorado, July 26, 2002. Invited

Sieber, J.R., "***Applying The Concept of Trueness to Alloy Analysis Using XRF and Borate Fusion,***" Analytical Reference Materials International ILAP Vail, Colorado, July 26, 2002. Invited

Sieber, J.R., "***Applying The Concept of Trueness to Alloy Analysis Using WDXRF and Borate Fusion,***" Denver X-Ray Conference, Colorado Springs, Colorado, August 1, 2002.

Thorn, W.J., "***Recent Progress in Stabilizing Low Concentration NO Mixtures,***" Air Products and Chemicals, Tamaqua, PA, December 11, 2001. Invited

Travis, J.C., "***Holmium Oxide Solution as a Prototype Intrinsic Standard in Molecular Absorption Spectrophotometry,***" 4<sup>th</sup> Oxford Conference on Spectrometry, Davidson, NC, June 12, 2002.

Turk, G.C., "***Using High-Performance ICP-OES as a Comparison to Establish Traceability of Calibration Solutions,***" 2002 Winter Conference on Plasma Spectrochemistry, Scottsdale, Arizona, January 5, 2002.

Vander Pol, S.S., "***Persistent Organic Pollutants in Alaskan Murre (*Uria spp.*) Eggs,***" Society Environmental Toxicology and Chemistry 2001 Annual Meeting, Baltimore, MD, November 15, 2001.

Vander Pol, S.S., "***Persistent Organic Pollutants in Alaskan Murre (*Uria spp.*) Eggs,***" Student Marine Biology Research Colloquium, Charleston, SC, February 23, 2002.

Vetter, T.W., "***Application of Holistic Gravimetry in the Determination of K in  $KH_2PO_4$ ,***" Pittsburgh Conference, New Orleans, LA, March 18, 2002.

Waddell, E.A., "***Adventures in the Fabrication of Lab-on-a-Chip Devices,***" Morgan State University, Baltimore, MD, October 11, 2001.

Welch, M.J., "***Development of Reference Methods and SRMs for Health-Status Markers,***" NIST ILO Healthcare Team Meeting, NIST, Gaithersburg, MD, January 23, 2002.

Welch, M.J., "***NIST's Program for Development of Accurate Methods and Reference Materials for Health-Status Markers,***" CCQM Organic Working Group Meeting, Sydney, Australia, November 29, 2001.

Wise, S.A., "***Marine Tissue and Sediment Standard Reference Materials (SRMs) for the Determination of Methylmercury and Organotins***," Federation of Analytical Chemistry Spectroscopy Societies (FACSS) Conference, Detroit, MI, October 10, 2001. Invited

Wise, S.A., "***Standard Reference Material (SRM) 1649a Urban Dust: New Information on an Old Air Particulate Reference Material***," 20<sup>th</sup> Annual American Association for Aerosol Research (AAAR) Conference, Portland, OR, October 16, 2001.

Wise, S.A., "***The Role of Chromatography in the Development of Standard Reference Materials***," Division Seminar, Department of Chemistry, University of Montana, Missoula, MT, May 6, 2002. Invited

Wise, S.A., "***Environmental Matrix Standard Reference Materials (SRMs) for Organic Contaminants – 20 Years of Progress***," EnviroAnalysis 2002, Toronto, Canada, May 27, 2002. Invited

Wise, S.A., "***Standards and Measurements for Carotenoids and Vitamins***," Roche Vitamins, Basel, Switzerland, September 16, 2002. Invited

Wise, S.A., "***Development of Standard Reference Materials (SRMs) for Dietary Supplements: Status of the NIST/FDA/NIH-ODS Program***," AOAC International, Los Angeles, CA, September 22, 2002. Invited

Wise, S.A., "***Characterization of a PM<sub>2.5</sub> Reference Material for the Determination of Organic Constituents***," 21<sup>st</sup> Annual American Association for Aerosol Research (AAAR) Conference, Charlotte NC, October 8, 2002.

Yu, L.L., "***Determination of Si by HR-ICP-MS for the Certification of a New Silica on Filter Reference Material***," Federation of Analytical Chemistry Spectroscopy Societies (FACSS) Conference, Detroit, MI, October 9, 2001.

Yu, L.L., "***Effect of Sodium Polyaspartate Chelation on the Controlling Mechanism of Calcite Dissolution***," Pittsburgh Conference, New Orleans, LA, March 19, 2002.

Yu, L.L., "***Determination of Si by HR-ICP-MS for the Development of Silica-on-Filter Standards***," Rush Presbyterian St. Luke's Medical Center, Rush University, Chicago, IL, June 13, 2002. Invited

Yu, L.L., "***The Investigation of Green Chemical Cleaning Process***," 6<sup>th</sup> Annual Green Chemistry and Engineering Conference, Washington, DC, June 25, 2002.

Yu, L.L., "***Development of Silica on Filter Standard Reference Material 295x***," Waste Testing & Quality Assurance Symposium (WTQA), Crystal City, VA, August 13, 2002.

Zeisler, R., "***Development and Characterization of Electronic Scrap Reference Materials***," American Nuclear Society 2001 Winter Meeting, Reno, NV, November 12, 2001. Invited

Zeisler, R., *“Instrumental Neutron Activation Analysis, a Valuable Link in Chemical Metrology,”* 14<sup>th</sup> Radiochemical Conference, Marianske Lazne, Czech Republic, April 16, 2002. Invited

Zeisler, R., *“Materials for Quality Assurance in Air Particulate Matter Research,”* 7<sup>th</sup> International Conference on Nuclear Analytical Methods in the Life Sciences, Antalya, Turkey, June 18, 2002. Invited

### **3. Cooperative Research Development Agreements (CRADAs) and Consortia**

“Development of High Resolution Imaging for Neutrons”

Nova Scientific

Heather Chen-Mayer and George P. Lamaze

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

Aykut Arslan (GR) – Fachhochschule Wiesbaden (Germany)

Susan Audino (GR) – American University

Donald Becker (GR) - National Institute of Standards and Technology

Mary Bedner (GR) – University of Maryland

Kerry Begley (GR) – Loyola College

Ronald Bishop (GR) – Smithsonian Institution

James Blackman (GR) – Smithsonian Institution

William Bowman (GR) - National Institute of Standards and Technology

Robert Downing (GR) – R.G. Downing Research, Inc.

Jan Kucera (GR) – Academy of Sciences of the Czech Republic

John Langland (GR) - National Institute of Standards and Technology

Marek Lankosz (GR) – Institute of Physics and Nuclear Techniques, Academy of Mining and Metallurgy (Poland)

Jacqueline Mann (GR) – University of Maryland

Stephen McGuire (GR) – Southern University and A&M College

Stephanie McLean (GR) – York College of Pennsylvania

Thi Anh Dao Nguyen (GR) – Fachhochschule Wiesbaden (Germany)

Marianna Arce Osuna (GR) – CENAM (Mexico)

Raffaella Perego (GR) – University of Technology, Delft, The Netherlands

Martin Peschke (GR) – Fachhochschule Wiesbaden (Germany)

Joele Viallon (GR) – BIPM (France)

Felicia Williams (GR) – American University

Yung Wu (GR) – National Institute of Standards and Technology

Li Zhao (GR) – Florida A&M University

#### **4. Patent Awards and Applications**

D.J. Ross, and L.E. Locascio, "Simplified Method for Electrokinetic Focusing of Samples in Microfluidic Devices," (US Provisional Patent Application Serial Number 60307691) Issued: July 25, 2001.

T.J. Johnson, E.A. Waddell, D.J. Ross, and L.E. Locascio, "Surface Charge Modification within Preformed Polymer Microchannels with Multiple Applications including Modulating Electroosmotic Flow and Creating Microarrays," (US Provisional Patent Application Serial Number 60323509) Issued: September 19, 2001.

#### **5. Measurement Services**

##### **5a. SRM Activities**

SRM 133b	Stainless Steel Cr-13, Mo0.3, S-0.3
SRM 930e	Neutral Glass Filters
SRM C1251a	Phosphorus Deoxidized Copper Cu VIII
SRM C1252a	Phosphorus Deoxidized Copper Cu IX
SRM C1253a	Phosphorus Deoxidized Copper Cu X
SRM 1575a	Trace Elements in Pine Needles
SRM 1626a	Sulfur Dioxide Permeation Tube – 5 cm
SRM 1693a	SO <sub>2</sub> /N <sub>2</sub> 50 µmol/mol
SRM 1694a	SO <sub>2</sub> /N <sub>2</sub> 100 µmol/mol
SRM 1881a	Portland Cement (Blended with Slag and Fly Ash)
SRM 1886a	Portland Cement (White Portland Cement with Low Iron)
SRM 1888a	Portland Cement
SRM 1889a	Portland Cement (Blended with Limestone)
SRM 1941b	Organics in Marine Sediment
SRM 1946	Lake Superior Fish Tissue
SRM 2031a	Metal on Quartz Filters Batches
SRM 2034	Holmium Oxide Solution Wavelength Standard
SRM 2065	UV-Visible, Near-Infrared Transmission Wavelength/Vacuum Wavenumber Standard
SRM 2241	Relative Intensity Correction Standard for Raman Spectroscopy: 785 nm Excitation
SRM 2298	Sulfur (Low) in Gasoline
SRM 2299	Sulfur (Low) in Gasoline
SRM 2379	Drugs of Abuse in Hair I
SRM 2380	Drugs of Abuse in Hair II
SRM 2383	Baby Food Composite
SRM 2384	Baking Chocolate
SRM 2453	Hydrogen in Titanium Alloy
SRM 2636	CO/N <sub>2</sub> , 250 ppm
SRM 2637	CO/N <sub>2</sub> , 2500 ppm
SRM 2638	CO/N <sub>2</sub> , 5000 ppm

SRM 2642 CO/N<sub>2</sub>, 8 % mol  
SRM 2702 Inorganics in Marine Sediment  
SRM 2721 Crude Oil (Yates Sour)  
SRM 2722 Crude Oil (Refugio Sweet)  
SRM 2750 CH<sub>4</sub>/Air, 50 ppm  
SRM 2751 CH<sub>4</sub>/Air, 100 ppm  
SRM 2783 Air Particulate on Filter  
SRM 3008 Dichloromethane  
SRM 3009 1,2-Dichloropropane  
SRM 3011 1,1,1-Trichloroethane  
SRM 3012 1,2-Dichloroethane  
SRM 3014 1,2,3-Trichloropropane  
SRM 3015 Isopropylbenze  
SRM 3016 Sec-Butylbenzene  
SRM 3063 Dioxin in Methanol  
SRM 3067 Toxaphene in Methanol  
SRM 3068 Total Chlordane in Methanol  
SRM 3069 Organochlorine Pesticides I in Acetone  
SRM 3070 Organochlorine Pesticides II in Acetone  
SRM 3071 Glyphosate in Water  
SRM 3072 Diquat Dibromide in Water  
SRM 3073 Carbamates in Vydate in Acetonitrile  
SRM 3074 Adipate and Phthalates in Methanol  
SRM 3075 Aroclor 1016 in Transformer Oil  
SRM 3076 Aroclor 1232 in Transformer Oil  
SRM 3077 Aroclor 1242 in Transformer Oil  
SRM 3078 Aroclor 1248 in Transformer Oil  
SRM 3079 Aroclor 1254 in Transformer Oil  
SRM 3080 Aroclor 1260 in Transformer Oil  
SRM 3081 Aroclor 1016 in Methanol  
SRM 3082 Aroclor 1232 in Methanol  
SRM 3083 Aroclor 1242 in Methanol  
SRM 3084 Aroclor 1248 in Methanol  
SRM 3085 Aroclor 1254 in Methanol  
SRM 3086 Aroclor 1260 in Methanol  
SRM 3103a Arsenic Spectrometric Solution  
SRM 3143 Rhenium Spectrometric Solution  
SRM 3144 Rhodium Spectrometric Solution  
SRM 3190 Conductivity 25 μS  
SRM 3191 Conductivity 100 μS  
SRM 3192 Conductivity 500 μS  
SRM 3194 Conductivity 10000 μS  
SRM 3198 Conductivity 5 μS  
SRM 3199 Conductivity 15 μS

### **New Primary Standards**

Hydrogen Sulfide	(12)
Carbon Monoxide	(18)
Methane	(9)
VOC standards	(17)
Deuterium	(1)

### **NTRM Activities**

An NTRM (NIST Traceable Reference Material) is a reference material produced and sold by a commercial supplier with a well-defined traceability linkage to NIST. This linkage is established via criteria and protocols defined by NIST that are tailored to meet the needs of the metrological community to be served. Reference materials producers adhering to these requirements will be allowed the NIST “NTRM” trademark.

GAS NTRMs (30) were produced in collaboration with the following companies:

#### **Company**

Air Products and Chemicals, Inc.	10 batches
Airgas Specialty Gases	2 batches
Praxair	3 batches
Scott Specialty Gases	12 batches
Spectra Gases, Inc.	3 batches

### **5b. SRD Activities**

NIST Standard Reference Database – Compounds: Dichloromethane, Carbon Monoxide, Ethanol, Benzene, Ethylene, Hydrogen Chloride.

### **5c. Calibrations**

Calibrations of Transmittance Filter Standards Gas Cylinder Recertifications have been provided for the following:

AGA Specialty Gases	(3)
Air Liquide	(11)
BOC Gases	(6)
CARB	(4)
Florida Dept of Environment	(1)
Ford	(10)
General Motors	(3)
NOAA	(1)
Spectra Gases	(4)
U.S EPA	(2)

**Optical Filter Recertifications have been provided for the following:**

3M Company (2)  
Abbott Diagnostics  
Abbott Health Products (3)  
Aerospace Fuels (2)  
Agilent Technologies  
Agilent Technologies Belgium  
Agilent Technologies China (2)  
Agilent Technologies England (2)  
Agilent Technologies GmbH Germany  
Agilent Technologies Ireland (2)  
Agilent Technologies Spain (2)  
Agilent Technologies Switzerland  
Agilent Technologies United Kingdom (3)  
Algorithm SAL  
Amer. Phar. Partners, Inc.  
Americhem, Inc.  
Amgen, Inc. (2)  
Analytical Instrumentation Services  
Analytical Standards AB  
Arch Chemicals (2)  
Astra Zeneca Liquid (2)  
ATK  
Bard BioPharma, L.P.  
Barr Laboratories, Inc. (2)  
Bausch & Lomb  
Bayer Corporation (5)  
Beckman Coulter (3)  
Becton, Dickinson & Company  
BioGen, Inc. (2)  
Biovail Laboratories (2)  
Boehringer Ingelheim  
Boeing Company  
Cal Check (2)  
Celltech (2)  
Ciba Specialty Chemicals  
Clariant (2)  
DB Diagnostic Systems  
DepoMed  
DHHS-NIH Clinical Center  
Diosynth RTP, Inc.  
Dow Chemical Company  
DuPont Pharmaceuticals  
Dynamex (4)  
E. Hong Instrument Company (2)  
Eastman Kodak Company (3)  
El DuPont de Nemours & Company (2)  
Elan Pharma Research Corporation  
EM Science  
Endo Pharmaceuticals  
Eon Pharma  
FDA, San Juan, PR  
Ferguson Enterprises (2)  
Fisher Scientific  
Foran Spice Company  
Fresenius Kabi (2)  
General Electric  
Gentex Optics  
GlaxoSmithkline (2)  
Hemotec  
Hitachi Instruments (4)  
Honeywell (2)  
ICS Services  
ImClone Systems, Inc.  
Integrated Services Solutions, Inc.  
Intracel Corporation  
IPR Pharmaceuticals (3)  
Israel Scientific Instruments  
IVAX Pharmaceuticals (2)  
Jasco Incorporated  
Jenck, S.A.  
Johnson & Johnson (2)  
Johnson & Johnson Prof. Products Brazil  
Juliette Metrology Laboratory  
Kodak  
Korry Electronics  
Laboratory Management Systems  
Lancaster Laboratories  
MaterialLab  
McNeil Consumer Pro. Company (2)  
MDS Pharma Services  
MEMC Electronic Materials Spa  
Merck & Company (3)  
Merke, Sharp and Dohme  
Millikin & Co.  
Monitor Labs, Inc.  
MOVA Pharmaceutical Manata Site

Nova Chimica  
Novartis Pharmaceuticals  
Noven Pharmaceuticals, Inc.  
Nu-Tech  
OMJ Pharmaceuticals (2)  
Optiglass  
Ortho Biologics  
Ortho-McNeil Pharmaceutical  
PAR Pharmaceuticals  
Parkedale Pharmaceuticals (2)  
Patheon, Inc.  
PECOM Energis  
PerkinElmer  
Pfizer Pharmaceutical Ltd. (7)  
Polimeri Europa Spa  
Rise National Laboratory  
Roche Diagnostics (2)  
Roxane Laboratories  
Schering-Plough Products, LLC  
Schwarz Pharma Manufacturing, Inc.  
Scientific Protein Laboratory  
See, Inc.  
Sethness Products

Shimadzu Scientific Instruments  
Shipley  
Simco Electronics  
Soquimica  
SOWA Science Corporation  
SteriGenics (3)  
Sterling Products Intern  
Stranaska LLC (2)  
Sunshine Instruments, Inc. (3)  
TEVA Pharmaceuticals  
The Kendall Company  
Thermo Elemental  
Thermo Spectronic (2)  
Transcat (2)  
Tyco Healthcare  
Union Carbide Corporation  
UOP, LLC  
Varian Industria  
Vical, Inc.  
Whitehall-Robins  
Wyeth-Ayerst Technologies (3)  
Wyeth-Lederle Vaccines

**NIST Standard Reference Photometer (SRP) Calibrations have been provided for the following:**

CSIR-NML, South Africa, API Model 401, serial #106. October 22-31, 2001.  
PCI-Wedeco, Inc., PCI Model LC400, serial #298. January 15-18, 2002.  
Thermo Electron Nippon Company, TEI Model 49CPS, serial numbers 72971-372, and 72972-372. March 8-14, 2002.  
NOAA-CMDL, Calibration of Dasibi Model 1003AH, serial #5275. April 8-11, 2002.  
IN USA, Inc., Model IN 2000, serial #020837. July 23-26, 2002.  
NASA Langley, Dasibi Model 1008 AH, serial #6877. September 16-17, 2002.  
Teledyne-API, API Model 700, serial numbers 899, 893, 898, 892, 889, 888, 894 and 900. September 16-26, 2002.

**NIST Standard Reference Photometer (SRP) Certifications/Recertifications have been provided for the following:**

SRP 21: NSW-EPA, Sydney, Australia, Electronics Upgrade and Recertifications.  
August 23 – October 4, 2002.  
SRP 22: ISCIII, Madrid, Spain, Electronics Upgrade and Re-certification.  
October 16-20, 2001.  
SRM 14: metas, Bern, Switzerland, Electronics Upgrade and Re-certification.  
November 15 - December 7, 2001.

SRP 27 and SRP 28: BIPM, Paris, France, Certification.  
March 14 - April 3, 2002.

SRP 26: UBA-Austria, Vienna, Austria, Certification.  
November 29 – December 1, 2001,

SRP 29: UBA-Germany, Langen, Germany, Certification.  
July 15-20, 2002.

SRP 7: U.S.EPA, Recertification.  
August 19-23, 2002.

SRP 30: Taiwan-EPA, Certification.  
August 1 – September 30, 2002.

- 5 New SRPs: BIPM – France (2), Germany (1), Switzerland (1), Taiwan (1)
- 6 Commercial calibrations

**Nuclear 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.  
Federal Highway Administration  
Florida A&M University  
General Electric  
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.

**6. 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

**J. Brown Thomas**

Supervisory Committee, Comstar  
CSTL SURF Co-Coordinator  
American Chemical Society (ACS) 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

**H.H. Chen-Mayer**

NIST Ionizing Radiation Safety Committee Subcommittee  
SIGMA XI, NIST Chapter, PostDoc Presentation Committee  
NIST Reactor Safety Evaluation Committee

**S.J. Choquette**

ASTM E13, Molecular Spectroscopy  
ASTM E13.08, Raman Spectroscopy (Vice-Chair)

**P.M. Chu**

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. Duewer**

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

**R.R. Greenberg**

ASTM, E10 Nuclear Technology and Applications  
ASTM, SC.05 Nuclear Radiation Metrology  
ASTM, WG.12 Nuclear Methods of Chemical Analysis  
ANS, C004, Biology and Medicine Division, Member, Executive Committee  
ANS, Trace Analysis Committee, Division of Biology and Medicine  
International Committee on Activation Analysis  
International Committee on Nuclear Analytical Methods in the Life Sciences

**F.R. Guenther**

CCQM Working Group on Gas Standards  
ASTM D22, Sampling and Analysis of Atmospheres  
ASTM SC.03, Ambient Atmosphere  
ASTM SC.05, Indoor Air

**W.R. Kelly**

NIST Consortium on Casting of Aerospace Alloys

**G.W. Kramer**

ASTM E01, Analytical Chemistry for Metals, Ores, and Related Materials  
ASTM E01.25, Laboratory Data Interchange and Information Management  
ASTM E13, Molecular Spectroscopy  
ASTM E13.01, Ultraviolet and Visible Spectroscopy  
ASTM E13.06, Molecular Luminescence  
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, 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  
NIST Ionizing Radiation Safety Committee Subcommittee

**R.M. Lindstrom**

NIST Ionizing Radiation Safety Committee (Vice-Chair)  
NIST Reactor Safety Evaluation Committee  
k<sub>0</sub> Users Workshop International Scientific Committee  
American Nuclear Society Executive Committee of the Isotopes and Radiation  
Division  
American Nuclear Society Representative to the AAAS Section Committee for  
Chemistry  
International Committee on Activation Analysis

**E.A. Mackey**

Representative on NVLAP Chemical Calibration Team  
ACD QA Committee

**W.A. MacCrehan**

ASTM E30, Forensics Sciences  
ASTM E30.01, Criminalistics  
Analytical Chemistry Society

**M.D. Maley**

ASTM E13, Molecular Spectroscopy and Chromatography  
ASTM E13.01, UV-Visible Spectroscopy

**S.A. Margolis**

American Society of Testing and Materials Committee D27 on Insulating Transformer  
Fluids  
American Society of Testing and Materials Committee Section D27.06.07 on  
Standard D1533 (Chair)

**W.E. May**

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); Member of Executive Council  
National Science Foundation, Chemical Instrumentation for Junior Faculty Panel  
Members  
North American Metrology Collaboration (NORAMET); Rapporteur for Chemical  
Metrology and Chair of Executive Council  
NCCLS Board of Directors (Member)  
Joint Committee on the Traceability of Laboratory Medicine (JCTLM) (Co-Chair)  
Working Group on Reference Methods and Reference Materials  
Peer Review Panel for Australian National Analytical Reference Laboratory (Chair)  
Peer Review Panel for South African Program in Chemical Metrology (Member)  
Advisory Board for Development Opportunities for First Year Students, Tennessee State  
University

**G.D. Mitchell**

Analytical Chemistry Division Safety Committee (Chair)

**B.C. Nelson**

Member of the IFCC Working Group for the Standardization of Total Plasma  
Homocysteine Measurements

**R.D. Oflaz**

Analytical Chemistry Division Safety Committee

**K.W. Phinney**

Washington Chromatography Discussion Group, President  
CSTL Colloquium Committee

**B.J. Porter**

National Children's Study, Repository Workgroup (Co-Chair)

**K. Pratt**

CCQM Electrochemistry Working Group  
IUPAC pH Working Party  
ASTM D19.05, Trace Inorganics in Water  
IUPAC Commission V.5, Electroanalytical Chemistry  
NCCLS Working Group on Reagent Water

**D.L. Poster**

U.S. EPA Graduate Fellowship Panel Review  
U.S. EPA SBIR Control and Monitoring of Mobile Source Emissions Panel Review  
U.S. EPA SBIR Measurement and Monitoring Technology Program Review  
International Society for Polycyclic Aromatic Compounds (ISPAC) Nominations  
Committee

**R.S. Pugh**

Hollings Marine Lab Safety, Environmental Compliance, and Security Committee

**M.L. Salit**

CITAC Measurement Uncertainty and Traceability Working Group

**L.C. Sander**

United States Pharmacopeia Working Group on HPLC Columns  
Canvassing Committee for ACS Award in Chromatography

**J.R. Sieber**

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  
U.S. Technical Advisory Group to ISO TC28 Petroleum products

**K.E. Sharpless**

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

**J.R. Sieber**

ASTM E001, Analytical Chemistry for Metals, Ores, and Related Materials  
ASTM E001.SC.21, Reference Materials and Liaison with S17

ASTM E001.SC.94, Development of Reference Material for Chemical Analysis of Metal,  
Metal-Bearing and Related  
ISO TC028, Petroleum Measurement

**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**

ASTM E13, Molecular Spectroscopy and Chromatography  
ASTM E13.01, Ultraviolet and Visible Spectroscopy (Chair)

**T. Vetter**

Analytical Chemistry Division Precious Metals Officer

**R.D. Vocke**

IUPAC, II.1 Commission on Atomic Weights and Isotopic Abundances (Secretary)  
IUPAC, Subcommittee on Isotopic Abundance Measurements (Titular Member)  
IUPAC, Subcommittee on Natural Isotopic Fractionation (Titular Member)  
IUPAC, II.4 Commission on Isotopic Specific Measurements as Traceable References  
(Associate Member)  
NCCLS Subcommittee on Determination of Lead  
IAEA Hydrology Section, Stable isotope Standards and Lutercalibration Committee  
(Consultant)

**M.J. Welch**

ISO 212 Standards for In Vitro Diagnostic Testing  
AACC Troponin Subcommittee

**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

**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**

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  
ANS Chair, Biology and Medicine Division  
ANS, TC Metrology in Nuclear Methods of Analysis, Biology and Medicine  
International Scientific Committee on Nuclear Analytical Methods in the Life Sciences  
(Division Chair)  
Organizing Committee, 6th International Conference on Methods & Applications  
of Radioanalytical Chemistry Technical Program Committee: Methods and  
Applications of Radioanalytical Chemistry  
International Advisory Board 14th Radiochemical Conference  
International Committee on Activation Analysis (Secretary)

**7. Editorships****M.S. Epstein**

Talanta (Editorial Advisory Board)  
Journal of Analytical Atomic Spectroscopy (Editorial Advisory Board)  
Newsletter of the National Society of Applied Spectroscopy (Editor)

**J.V. Goodpaster**

Analytical and Bioanalytical Chemistry (Guest Editor, special issue on Forensic Science)

**G.W. Kramer**

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

**D.L. Poster**

Polycyclic Aromatic Compounds (Editorial Advisory Board)

**L.C. Sander**

Journal of Chromatography (Editorial Advisory Board)

**J.R. Sieber**

X-Ray Spectrometry (Editorial Advisory Board and News Editor)

**S.A. Wise**

Analytical and Bioanalytical Chemistry, Editor  
Polycyclic Aromatic Compounds (Topical Editor)  
Accreditation and Quality Assurance (Editorial Board)

## **8. Seminars**

### **November 15, 2001**

David Beebe, University of Wisconsin, "Organic, Autonomous Microfluidic Systems and Culture in Microenvironments." (Division Sponsor: L. E. Locascio)

### **January 2, 2002**

Savelas Rabb, Ohio State University, "High Performance ICP-OES: Examining the Practical Issues of Analysis." (Division Sponsor: J.D. Fassett)

### **January 16, 2002**

Joseph Lakowicz, University of Maryland, "Radiative Decay Engineering: Biochemical and Biomedical Applications." (Division Sponsor: P.C. DeRose)

### **February 1, 2002**

M. Alexander Ruehl, University of Applied Sciences, Wiesbaden, Germany, "SpectroML-XML for Molecular Spectrometry Data." (Division Sponsor: G.W. Kramer)

### **March 8, 2002**

Robert Eganhouse, USGS, "The Search for Reliable Aqueous Solubility and Octanol-Water Partition Coefficient Data for Hydrophobic Compounds." (Division Sponsor: D.L. Poster)

### **March 13, 2002**

Steven Ellison, Laboratory of the Government Chemist (LGC), "Measurement of Analyte in the Presence of Matrix." (Division Sponsor: M.L. Salit)

### **March 22, 2002**

Conrad James, Cornell University, "Electrophysiological and Developmental Studies of Reconstructed Neuronal Cell Networks Using Microfabrication Techniques." (Division Sponsor: L.E. Locascio)

### **March 23, 2002**

John Sieber, NIST, "Matrix-Independent XRF Methods." (Division Sponsor: J.D. Fassett)

### **March 25, 2002**

Matthias Roesslein, EMPA, St. Gallen, Switzerland, "Introducing Measurement Uncertainty in Commercial Laboratories." (Division Sponsor: J.D. Fassett)

### **April 1, 2002**

Wyatt Vreeland, Northwestern University, "Free-Solution Conjugate Electrophoresis: A Methodology for High-Resolution Microscale Electrokinetic Separations." (Division Sponsor: L.E. Locascio)

### **April 24, 2002**

Joe Romano, Waters Corporation, "Methods of Analysis: Nutraceuticals/Dietary Supplements." (Division Sponsor: K.E. Sharpless)

**June 11, 2002**

Tom Brosnan, NOAA Damage Assessment Center, "Assessment of Injuries to Natural Resources from PCBs in the Hudson River." (Division Sponsor: M.M. Schantz)

**June 11, 2002**

Harry Giles, Department of Energy, Washington, DC, "An Overview of the US Crude Oil and Heating Oil Stockpiling Programs." (Division Sponsor: W.R. Kelly)

**June 24, 2002**

Ian Brindle, Brock University, Ontario, Canada, "Recent Advances in Sample Introduction for Atomic Spectrometry." (Division Sponsor: S.E. Long)

**June 25, 2002**

Oscar Chinellato, ETH Zurich, "Estimating Measurement Uncertainty." (Division Sponsor: M.L. Salit)

**August 9, 2002**

Dr. Roberto Accorsi, The Children's Hospital of Philadelphia, PA, "Design of Near-Field Coded Aperture Camera for High-Resolution Gamma-Ray Imaging." (Division Sponsor: G.P. Lamaze)

**August 13, 2002**

Marek Lankosz, University of Mining and Metallurgy, Krakow, Poland, "Research Activities in the Department of Radiometric Analysis." (Division Sponsor: J.R. Sieber)

**9. Conferences/Workshops/Sessions Sponsored/Co-Sponsored**

**October 11-12, 2001**

"11th Annual SEA Student Technical Conference; NIST/SEA: Investing In ... Today," NIST, Gaithersburg, MD (Division Sponsor: W.E. May)

**October 15, 2001**

"Workshop on 1<sup>st</sup> Intercomparison Exercise for Organic Contaminants in PM<sub>2.5</sub> Air Particulate Matter," Portland, OR (Division Sponsor: M.M. Schantz)

**November 11-15, 2001**

"Quality Assurance," American Nuclear Society 2001 Winter Meeting, Reno, NV (Division Sponsor: R.R. Greenberg)

**November 11-15, 2001**

"Radioanalytical Methods for Industrial Applications I," American Nuclear Society 2001 Winter Meeting," Reno, NV (Division Sponsor: R. Zeisler)

**November 11-15, 2001**

"Radioanalytical Methods for Industrial Applications II," American Nuclear Society 2001 Winter Meeting," Reno, NV (Division Sponsor: R. Zeisler)

**November 14, 2001**

“Workshop on NIST/NOAA Marine Mammal Intercomparison Exercise Program for Organic Contaminants in Tissues,” 22<sup>nd</sup> Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD (Division Sponsor: J.R. Kucklick)

**December 11-12, 2001**

“Workshop on Genetically Modified Foods: Measurement and Standards Needs,” SIM General Assembly Meeting, Miami, FL (Division Sponsor: K.E. Sharpless)

**June 16-21, 2002**

“Reference Materials Used for Validation of Nuclear Analytical Techniques and Quality Assurance,” 7<sup>th</sup> International Conference on Nuclear Analytical Methods in the Life Sciences, Antalya, Turkey (Division Sponsor: R.R. Greenberg)

**July 8, 2002**

“Provision of Proficiency Test Studies for U.S. EPA/State’s Water Programs by NIST-Accredited Providers,” NELAC Conference, Tampa, FL (Division Sponsor: R.M. Parris)

**July 26, 2002**

“Summary of Progress on AIGER/NIST Low NO SRM,” Leslie Melkvic Automotive Industry-“Low NO SRMs.” (Division Sponsor: W.J. Thorn)

**July 30, 2002**

“Forum on Quality Systems Implementations Within SIM,” NIST, Gaithersburg, MD (Division Sponsor: W.E. May)

**10. Other**

**10a. Awards**

**David L. Duewer** (Analytical Chemistry Division) received the **Department of Commerce Bronze Medal** for his successful and innovative use of visualization techniques to summarize and communicate complex statistical information from interlaboratory DNA profiling, micronutrient measurement studies, multi-vendor NIST Traceable Reference Material qualification data, and multi-national intercomparison results that are understandable to both decision makers and wider scientific audiences.

**10b. Intercomparisons**

CCQM-K6	Cholesterol in Human Serum
CCQM-K10	Benzene, Toluene and ortho-Xylene in Nitrogen at Nominal 5 $\mu$ mole/mole
CCQM-K16	Natural Gas
CCQM-K17	Key Comparison P4 Measurement Determination of an Unknown Phthalate Buffer
CCQM-K24	Rice Flour: Ca

CCQM K25	PCB Congeners in Sediment
CCQM K27	Ethanol in Aqueous Matrix
CCQM-K31	Arsenic in Shellfish
CCQM-K135	Bilateral supplemental comparisons with BAM and CENAM Pb, Cd, in Sediment
CCQM-P11	Arsenic in Fish or Shell Fish
CCQM-P13	Food Digest: Ca and Cu
CCQM-P18	Tributyl Tin in Sediment
CCQM-P19.1	NIST Pilot Purity of 0.01 mol/Kg Hydrochloric Acid
CCQM-P20a	Characterization of Tributyltin Chloride
CCQM P20b	Characterization of o-Xylene for Chemical Purity
CCQM-P22	Conductivity (primary & secondary measurements)
CCQM-P23	Pilot study on Gravimetric Preparation of Gas Standards
CCQM-P24	Dynamic Mixing Methods
CCQM-P25	Study on Determination of Minor Elements in Low Alloy Steel, Cr, Mn, Ni, Mo
CCQM-P27	LSD in Human Urine
CCQM-P29	Rice Flour: Zn
CCQM-P32	Pilot Study Monoanion Calibration Solutions
CCQM P35	Ethanol in Aqueous Matrix
CCQM-P36	Assay of Potassium Acid Phthalate
CCQM-P37	Pilot Study Fundamental Studies of pH Standards
CCQM-P38	SiO <sub>2</sub> on Si Film Thickness
CCQM-P41	Pilot Comparison of Global Warming Gases
CCQM-P45	Purity Analysis of Parent Gases incl. H <sub>2</sub> O
Bilateral with NMI	Comparison of 18 Component Non-Methane Hydrocarbon Standard, Low concentration Nitric Oxide, and Hydrogen Sulfide
Bilateral with BIPM	Comparison of Standard Reference Photometers for Ozone
Bilateral with CENAM	Automotive Emissions
SIM.8-P1.2	Chlorinated Pesticides in Organic Solvent
SIM.8-P4	pH (4-8)
SIM.8-P5.2	Vitamins, Minerals, and Fatty Acids in Milk Powder
SIM.8-P6	UV/Visible Spectrophotometry Wavelength Standard (Holmium oxide)
SIM.8-P7	Pesticides in Food
SIM.8-P8	Pilot Comparison Study for Natural Gas