

Outputs and Interactions – Analytical Chemistry Division

1. Publications

1a. Publications in Print

Bamford, H.A., Poster, D.L., and Baker, J.E., “*Henry's Law Constants of Polychlorinated Biphenyl Congeners and Their Variation with Temperature*,” J. Chem. Eng. Data, 45, 1069-1074 (2000).

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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)

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Phinney, K.W. and Sander, L.C., "***Standard Reference Materials for the Evaluation of Chiral Stationary Performance in Liquid and Supercritical Fluid Chromatography***," Fresenius' J. Anal. Chem. (in press).

Phinney, K.W., Jackson, J.W., and Sander, L.C., "***Chiral Recognition of Functionalized Cyclodextrins in Capillary Electrophoresis***," Electrophoresis (in press).

Sander, L.C. and Wise, S.A., "***The Influence of Column Temperature on Selectivity in Liquid Chromatography for Shape-Constrained Solutes***," J. Sep. Sci. (in press).

Schantz, M.M., Parris, R.M., and Wise, S.A., "***NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of 2000 Organic Intercomparison Exercises***" NISTIR, (in press).

Shreiner, R.H., Fuko, J.C., Jensen, H.D., Wandel, M., and Sørensen, J., "***International Intercomparison of Electrolytic Conductivity Between DFM (Denmark)***," NIST (USA), and OMH (Hungary) (in press).

Sieber, J.R., "***Matrix-Independent XRF Methods for Certification of Standard Reference Materials***," Adv. X-Ray Anal. (in press).

Tewari, Y.B. and Bunk, D.M., "***Thermodynamics of the Lipase-catalyzed Esterification of Glycerol and n-Octanoic Acid in Organic Solvents and in the Neat Reaction Mixture***," J. Mol. Catal. B: Enzymatic (in press).

Vetter, T.W. and Epstein, M.S., "***Using Instrumental Techniques to Increase the Accuracy of the Gravimetric Determination of Aluminum***," Talanta (in press).

Vetter, T.W., Yu, L.L., Guthrie, W.F., and Sieber, J.R., "***Application of Holistic Gravimetry in the Determination of K in KH_2PO_4*** ," Analyst (in press).

Winchester, M.R., "***Standards and Reference Materials for Glow Discharge Spectroscopies***," Chapter 14 in *Glow Discharge Plasma in Analytical Spectroscopy*, R. Kenneth Marcus and Jose Broekaert, (eds.), John Wiley & Sons (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.

Polymer Science (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

Becker, P.R., "***AMMTAP: Polar Bears/Ice Seal, and Belugas***," USGS-MMS Alaska Offshore Environmental Studies Program, Investigator Meetings, Anchorage, AK, November 2, 2000.

Becker, P.R., "***Summary of NIST Data and Information on POPs in the Arctic***," AMAP POPs Data Workshop, Seattle, WA, December 5, 2000.

Becker, P.R., "***The Alaska Marine Mammal Tissue Archival Project***," MMS 8th Information Transfer Meeting, Anchorage, AK, April 4, 2001.

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

Benner, B.A., Jr., "***Trace Evidence Analysis of Human Hair by On-Line Supercritical Fluid Extraction Gas Chromatography/Mass Spectrometry: A Feasibility Study***," Forensic Sciences and Crime Scene Technology Conference and Exposition, Washington, DC, May 15, 2001.

Benner, B.A., Jr., "***Analytical Supercritical Fluid Extraction***," 19th International Symposium and Exhibit on Supercritical Fluid Chromatography, Extraction, and Processing, Myrtle Beach, SC, August 19, 2001.

Benner, B.A., Jr., "***Pressurized Fluid Extraction for Use in the Certification of Natural Matrix Standard Reference Materials***," 19th International Symposium and Exhibit on Supercritical Fluid Chromatography, Extraction, and Processing, Myrtle Beach, SC, August 22, 2001. Invited

Brown Thomas, J.M., "***Review of Results from Interlaboratory Comparison Exercises for Fat-Soluble Vitamins and Carotenoids in Serum***," NIST Micronutrients Measurement Quality Assurance Workshop/Experimental Biology, Orlando, FL, April 4, 2001.

Chen-Mayer, H.H., "***Imaging of Neutron Incoherent Scattering from Hydrogen in Metals***," 220th American Chemical Society National Meeting, Washington, DC, August 23, 2000.

Chen-Mayer, H.H., "***Application of Neutron Focusing Techniques for Prompt Gamma Activation Analysis and Neutron Depth Profiling***," Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Chen-Mayer, H.H., "**Quantitative Determination of Hydrogen in Titanium at Hundred-ppm Levels Using an Imaging Detector**," American Physical Society Meeting, Seattle, WA, March 14, 2001.

Chen-Mayer, H.H., "**Neutron Depth Profiling (NDP) of Boron Thin Films in Epitaxially Grown Silicon**," American Physical Society Meeting, Seattle, WA, March 15, 2001.

Chen-Mayer, H.H., "**Neutron Beam Focusing for Analytical Applications**," Japan Atomic Energy Research Institute, Tokai, Japan, August 6, 2001. Invited

Chen-Mayer, H.H., "**Neutron Imaging and Prompt Gamma Activation Analysis Using a Monolithic Capillary Neutron Lens**," 3rd International Congress on Analytical Sciences, Tokyo, Japan, August 10, 2001. Invited

Christopher, S.J., "**Marine Quality Assurance and Specimen Banking Programs Conducted by NIST**," Pittsburgh Conference 2001, New Orleans, LA, March 5-8, 2001.

Christopher, S.J., "**Accurate Determination of Mercury in Environmental Samples: Employment of Isotope Dilution Cold Vapor Inductively Coupled Plasma Mass Spectrometry**," 53rd Annual Meeting of the Southeastern Region of ACS, Atlanta, GA, September 25, 2001.

Choquette, S.J., "**Near Infrared Spectroscopy: Standards Development and Applications Work at NIST**," Chemical Society of Washington, Washington, D.C., February 8, 2001. Invited

Choquette, S.J., "**Spectral Response Correction Standards for Raman Spectroscopy**," Pittsburgh Conference 2001, New Orleans, LA, March 7, 2001.

Chu, P.M., "**SRD 79: A NIST Traceable – Quantitative Infrared Database**," CCG-CBD Subgroup Meeting, Gaithersburg, MD, October 11, 2000. Invited

Chu, P.M., "**Are Standards Needed for the Validation of E-Nose Measurements?**" Electronic Nose Technologies, Knowledge Foundation Conference, October 26-27, 2000, San Diego, CA. Invited

Chu, P.M., "**NIST Centennial Creativity Panel**," William D. Phillips, Chair, Panelists: Pam Chu, Greg Linteris, Deborah Jin, Tom Silva, Gaithersburg, MD, March 5, 2001. Invited

Chu, P.M., "**The Implementation and Validation of Fourier-Transform Microwave (FT-MW) Spectroscopy for the Quantitative Analysis of Chemical-Warfare Agents in Air**," Chemical and Biological Defense session, National Conference of Standards Laboratories, Washington, DC, August 1, 2001. Invited

DeRose, P.C., "**Characterization and Certification of Fluorescein Solution, Standard Reference Material 1932**," Pittsburgh Conference 2001, New Orleans, LA, March 6, 2001

Dorko, W.D., "***Gas Mixture NTRM Program: Current Status and Activities During 2000,***" Gas NTRM Providers Meeting, New Orleans, LA, March 6, 2000.

Dorko, W.D., "***Mass Spectrometric Analysis of the Gaseous Contents of Three Charters of Freedom Encasements,***" Technical Review and Assessment of Three Charters of Freedom Encasements, National Archives at College Park, MD, November 2, 2000.

Dorko, W.D., "***Implementation and Impact of Gas Mixture NTRM Program,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Dorko, W.D., "***Gas Mixture NTRM Program: How it Can be Used by the Automobile Industry,***" Meeting of EPA/AIGER/NIST, Gaithersburg, MD, June 15, 2001.

Dorko, W.D., "***Responsibilities of the Producer for the Blending and Analysis of Gas Mixture NTRMs,***" Airgas Special Gases, Cheshire, CT, July 13, 2001.

Dorko, W.D., "***The 50 Year Seal: Gas Extraction and Measurement, A History of Encasements: Technology Preserving the Charters of Freedom,***" Gaithersburg, MD, September 17, 2001.

Duewer, D.L., "***A Chemometrician Looks at Interlaboratory Testing,***" 44th Annual Fall Technical Conference (American Statistical Association), Minneapolis, MN, October 2, 2000. Invited

Duewer, D.L., "***Measuring Chemicals Vs Chemical Metrology,***" NIST Micronutrients Measurement Quality Assurance Program Workshop, Orlando, FL, April 4, 2001.

Duewer, D.L., "***Review of Vitamin C Analyses,***" NIST Micronutrients Measurement Quality Assurance Program Workshop, Orlando, FL, April 4, 2001.

Elam, W.T., "***Chemical Information from X-ray Emission Spectra,***" Seattle, WA, March 12-16, 2001.

Fassett, J.D., "***Pb in the Environment: The Development and Certification of Reference Materials,***" Pittsburgh Conference 2001, New Orleans, LA, March 2-6, 2001.

Goodpaster, J.V., Drumheller, B.C., Benner, B.A., Jr., "***Extraction and Chemical Analysis of Human Scalp Hair as a Novel Trace Evidence Technique,***" 30th Annual Meeting of the Midwestern Association of Forensic Scientists, Minneapolis, MN, September 27, 2001.

Greenberg, R.R., "***Metrological Considerations for Neutron Activation Analysis of Trace Elements in Solid Materials,***" 6th U.S./Italian Bilateral Seminar on Cooperation in Metrology, Equivalence of the National Standards, and Dissemination of SI Units, Turin, Italy, November 16, 2000. Invited

Greenberg, R.R., "***Demonstration of Instrumental Neutron Activation Analysis as a Primary Method of Measurement,***" Pittsburgh Conference 2001, New Orleans, LA, March 6, 2001.

Greenberg, R.R., “*Neutron Activation Analysis and Metrology in Chemistry*,” 3rd International Symposium on Nuclear Analytical Chemistry, Halifax, Nova Scotia, June 11, 2001. Invited

Guenther, F.R., “*Uncertainty Assessment of PSMs, NTRMs, and SRMs*,” CCQM Gas Working Group Meetings, Delft Netherlands, January 22, 2001.

Guenther, F.R., “*International Comparisons of Primary Gas Mixtures*,” Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Guenther, F.R., “*Current Status of the NIST Gas Metrology Program*,” Gas NTRM Providers Meeting, New Orleans, LA, March 6, 2001.

Guenther, F.R., “*The Quantitative Infrared Database*,” CCQM Gas Working Group Meeting, Paris, France, April 2, 2001.

Guenther, F.R., “*How Far does the Light Shine in Gas Standard Comparisons*,” CCQM Gas Working Group Meeting, Paris France, April 3, 2001.

Guenther, F.R., “*The NIST Gas Metrology Program*,” Meeting of EPA/AIGER/NIST, Gaithersburg, MD, June 15, 2001.

Howard, M., “*Using Carius Combustion to Measure Chlorine in Coals*,” Sigma Xi Poster, Gaithersburg, MD, February 15, 2001.

Howard, M., “*Elemental Isotopic Measurements: Research and Standards*,” and “*Use of Experimental Design to Improve Accuracy in Analytical Measurements*,” Pittsburgh Conference 2001, New Orleans, LA, March 4-10, 2001.

Howard, M., “*High Accuracy Chlorine Assays and Isotopic Measurements in Fossil Fuels and Potential for Isotopic Fingerprinting of Trace Chlorinated Organic Compounds*,” Asilomar Conference, Monterey, CA, June 26, 2001.

Johnson, T.J., “*Surface Charge Analysis of Laser-Ablated and Imprinted Polymer Microchannels*,” Lab Automation 2001 Conference, Palm Springs, CA, January 29, 2001. Invited

Johnson, T.J., “*Integration of Passive Elements*,” Gordon Research Conference Physics and Chemistry of Microfluidics, Queen’s College, Oxford, UK, August 1, 2001. Invited

Kelly, W.R., “*Determination of Sulfur in Coal by ID-TIMS and its Economic Impact*,” ASTM D5 Committee Meeting, Orlando, FL., October 25, 2000. Invited

Kelly, W.R., “*Mercury Emissions to the Atmosphere from Petroleum Refining and the Status of Mercury in Petroleum*,” EPA Region 5, Chicago, IL, November 16, 2000. Invited

Kelly, W.R., "***Impact of Standard Reference Materials-Economic Assessment Studies,***" Pittsburgh Conference 2001, New Orleans, LA, March 4-7, 2001.

Kramer, G.W., *Short Course: "Intro to Lab Robotics,"* Association for Laboratory Automation, San Diego, CA, August 26, 2001. Invited

Kucklick, J.R., "***NIST's Role in the Quality Control of Organochlorine and Trace Element Measurements in Marine Mammal Tissues,***" 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 13, 2000.

Kucklick, J.R., "***Polychlorinated Naphthalenes (PCNs) and Coplanar PCBs in Environmental Reference Materials,***" 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 14, 2000.

Kucklick, J.R., "***Persistent Organochlorine Pollutants (POPs) in Marine Mammals Collected from Alaskan Coastal Waters,***" International Workshop on Marine Pollution by Persistent Organic Pollutants, Tsukuba, Japan, February 27, 2001. Invited

Lamaze, G.P., "***Chemical Analysis at Surfaces Through Cold Neutron Depth Profiling,***" Pittsburgh Conference 2001, New Orleans, LA, March 6, 2001.

Lindstrom, R.M., "***Gamma-ray Peak Integration: Accuracy and Precision,***" 2000 American Nuclear Society International Meeting, Washington, DC, November 13, 2000. Invited

Lindstrom, R.M., "***Neutron Fluence Monitoring by Foil Activation at the NBSR,***" 2000 American Nuclear Society International Meeting, Washington, DC, November 14, 2000. Invited

Lindstrom, R.M., "***Nuclear Analytical Chemistry at NIST,***" 2000 American Nuclear Society International Meeting, Washington, DC, November 15, 2000. Invited

Lindstrom, R.M., "***Analytical Chemistry with Neutron Beams at NIST,***" North Carolina State University, Raleigh, NC, February 22, 2001. Invited

Lindstrom, R.M., "***Nondestructive Measurement of Hydrogen by Cold Neutron Prompt Gamma-Ray Activation Analysis,***" Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 5, 2001.

Lindstrom, R.M., "***Standard Materials and Neutron Methods for Trace Hydrogen Analysis,***" Gordon Research Conference on Hydrogen-Metal Systems, New London, CT, July 10, 2001. Invited

Lindstrom, R.M., "***The Half-life of ⁷⁶As,***" 3rd International k0 Users Workshop, Brugge, Belgium, September 24, 2001.

Lindstrom, R.M., "***Using k0 in PGAA: Perspectives,***" 3rd International k0 Users Workshop, Brugge, Belgium, September 25, 2001. Invited

Locascio, L.E., "***Applications of Analytical Nanotechnology,***" DIR-AG Metting, Downer's Grove, IL, October 5, 2000. Invited

Locascio, L.E., "***Fabrication and Characterization of Plastic Microfluid Devices,***" Electrochemical Society Meeting, Phoenix, AZ, October 24, 2000.

Locascio, L.E., "***BioMicrofluidic Devices: New Technologies for Probing Biological Systems,***" Center for Advanced Research in Biotechnology, North Potomac, MD, February 12, 2000. Invited

Locascio, L.E., "***Characterization of Plastic Microfluid Systems and Their Application in Biotechnology,***" University of Maryland Department of Chemistry and Biochemistry, College Park, MD, March 11, 2001. Invited

Locascio, L.E., "***Applications of Surface Modification Through Direct Write Patterning,***" Gordon Conference on Microfluidics, Oxford, England, August 2, 2001. Invited

Long, S.E., "***Determination of Mercury in Coal by ID-CV-ICP-MS: A New Primary Method,***" DO5 ASTM Subcommittee, Orlando, FL, October 22-25, 2000.

Long, S.E., "***Certification of Cd and Pb in SRM 966, Toxic Metals in Blood by Isotope Dilution ICP-MS,***" IVD Traceability Workshop, Gaithersburg, MD, November 2, 2000.

Long, S.E., "***A New Primary Method for the Determination of Mercury in Fossil Fuels,***" EPA Binational Toxics Strategy Meeting, Chicago, IL, November 11, 2000.

Long, S.E., "***Determination of Mercury in Fossil Fuels by ID-CV-ICP-MS: A New Primary Method,***" Biological Chesapeake Laboratory, Center for Environmental Science, University of Maryland, College Park, MD, March 1, 2001.

Long, S.E., "***Development of Accurate Methods for the Determination of Mercury in Clinical, Environmental and Fossil Fuel Standards,***" Pittsburgh Conference 2001, New Orleans, LA, March 4-9, 2001.

Long, S.E., "***Development of Methods at NIST for the Determination of Mercury in Environmental Materials,***" Maryland Environmental Laboratory Association, Baltimore, MD, July 26, 2001.

MacCrehan, W.A., "***Associating Gunpowder Residues and Unfired Powders Based on Quantitative Compositional Analyses,***" 52nd Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA, February 23, 2001.

MacCrehan, W.A., "***Assuring Accurate Gunpowder Compositional Analysis: An Interlaboratory Measurement Comparison,***" 52nd Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA, February 23, 2001.

MacCrehan, W.A., "***Testing a Little Gunpowder: Associating Powders, Residues, and Suspects Based on Quantitative Additive Determination***," Pittsburgh Conference on Analytical Chemistry, New Orleans, LA, March 7, 2001. Invited

MacCrehan, W.A., "***Catching Crooks with Chemistry: The Role of Analytical Measurements in Forensic Science***," 28th Annual Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Baltimore, MD, April 9, 2001. Invited

MacCrehan, W.A., "***Associating Handgun Organic Gunshot Residues (OGSR) with Unfired Smokeless Powder Based on Quantitative Compositional Analysis***," 27th Annual Meeting of the Middle Atlantic Association of Forensic Scientists/Southern Atlantic Association of Forensic Scientists, Williamsburg, VA, April 27, 2001.

Mackey, E.A., "***Upgrade of the NIST Thermal Neutron Prompt-Gamma-Ray Activation Analysis Facility***," 2000 American Nuclear Society International Meeting, Washington, DC, November 15, 2000.

Mackey, E.A., "***Element Content of Liver and Kidney of Rough-Toothed Dolphins***," 3rd International Symposium on Nuclear Analytical Chemistry, Halifax, Nova Scotia, June 11, 2001. Invited

May, W.E., "***The Changing Landscape for Reference Materials Development and Delivery***," Eighth International Symposium on Biological and Environmental Reference Materials (BERM-8), The National Institutes of Health, Bethesda, MD, September 18, 2000. Invited

May, W.E., "***NIST Program in Analytical Chemistry: What We Do, Why We Do It, and Who Cares***," University of California-Davis, Chemistry Department Seminar, Davis, CA, November 16, 2000. Invited

May, W.E., "***Science and Science Careers at NIST***," University of California-Davis, Chemistry Department Seminar, Davis, CA, November 17, 2000. Invited

May, W.E., "***Chemical Metrology: Impact on Competitiveness, Equity in Trade, and Quality of Life***," MetroChem 2000, Sao Paulo, Brazil, December 4, 2000. Invited

May, W.E., "***NIST SRMs: Historical Perspectives and Trends***," MetroChem 2000, Sao Paulo, Brazil, December 5, 2000. Invited

May, W.E., "***Chemical Metrology Within the Americas: History and Recent Development***," MetroChem 2000, Sao Paulo, Brazil, December 5, 2000. Invited

May, W.E., "***The EU IVD Directive: What It Is, What It Is Not, and What Is NIST Doing?***," Mayo-Clinic Rochester, MN, December 18, 2000. Invited

May, W.E., “***NIST: What We Do, Why and How We Do It, and Why You Should Care,***” Hampton University, Department of Chemistry Research Symposium, Hampton, VA, February 3, 2001. Invited

May, W.E., “***NIST’s Analytical Chemistry Division: Helping to Meet the Nation’s Measurements and Standards Needs,***” Pittsburgh Conference 2001, Morial Convention Center, New Orleans, LA, March 5, 2001.

May, W.E., “***NIST: What We Do, Why and How We Do It, and Why You Should Care,***” National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Annual Conference, Baltimore, MD, April, 12, 2001. Invited

May, W.E., “***NIST Program in Chemical Metrology: It’s Impact on Competitiveness, Equity in Trade and Quality of Life,***” Elaboration of a Concept for the Development of the Metrology in Chemistry in Chile Workshop, Santiago, Chile, May 2, 2001. Invited

May, W.E., “***The Changing Landscape for Reference Materials Development and Delivery,***” ISO/REMCO MEETING, Gaithersburg, MD, May 22, 2001. Invited

May, W.E., “***The Role of Chemical Measurement Standards for Facilitating Sound Medical Decision-Making and Reducing Healthcare Costs,***” Testimony before the Senate Committee on Commerce, Science, and Transportation, Subcommittee on Science, Technology and Space in a Hearing on E-Health and Technology: Empowering Consumers in a Simpler, More Cost Effective Health Care System, July 23, 2001. Invited

May, W.E., “***NIST Chemical Measurement Quality Assurance and Proficiency Testing Programs,***” NCSL Conference, Washington, DC, July 30, 2001. Invited

May, W.E., “***NIST SRMs and Their Role in Providing Traceability for Chemical Measurements,***” NCSL Conference, Washington, DC, July 31, 2001. Invited

May, W.E., “***NIST’s Analytical Chemistry Program and It’s Impact on U.S. Industrial Competitiveness, Trade, and Quality of Life,***” American Chemical Society, Division of Analytical Chemistry Award Symposium, McCormick Place, North, Chicago, IL, August 28, 2001. Invited

May, W.E., “***Chemical Measurements for Healthcare,***” Visiting Committee on Advanced Technology Semi-Annual Meeting, Boulder, CO, September 11, 2001. Invited

Mitchell, G.D. “***Dynamic Gravimetric Preparation of Hydrogen Sulfide Calibration Gas Mixtures,***” National Organization for the Professional Advancement of Black Chemist and Chemical Engineers (NOBCChE), Baltimore, MD, April 2001.

Myers, R.C., “***International Comparisons of Primary Gas Standards,***” Climate Monitoring and Diagnostics Laboratory, NOAA, Boulder, CO, May 16, 2001.

Nelson, B.C., “***Current Directions in the Development of Standard Reference Materials for***

Health Status Markers at NIST,” University of North Florida, Department of Chemistry and Biology, Jacksonville, FL, November 17, 2000. Invited

Nelson, B.C., “***Stabilization and Quantitation of 5-Methyl Tetrahydrofolic Acid (5MT) Monoglutamate in Human Plasma/Serum by Liquid Chromatography/Electrospray Ionization Mass Spectrometry (LC/ESI-MS),***” Experimental Biology Meeting (2001), Orlando, FL, April 4, 2001.

Nelson, B.C., “***Stabilization and Quantitation of 5-Methyl Tetrahydrofolic Acid (5MT) Monoglutamate in Human Plasma/Serum by Liquid Chromatography/Electrospray Ionization Mass Spectrometry (LC/ESI-MS),***” Washington, DC Chromatography Discussion Group, Rockville, MD, May 17, 2001. Invited

Norris, J.E., “***Tracability of Ozone Measurements,***” Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Norris, J.E., “***Recent Developments in NIST's Ozone Standard Program,***” Direcç~o Geral do Ambiente, Lisbon, Portugal, June 28, 2001.

Parris, R.M., “***NIST Accreditation/Oversight of Proficiency Test Study Providers for EPA/States Water Programs,***” Pittsburgh Conference 2001, Morial Convention Center, New Orleans, LA, March 5, 2001.

Paul, R.L., “***Evaluation of Uncertainties in the Determination of Phosphorus by RNAA,***” 2000 American Nuclear Society International Meeting, Washington, DC, November 13, 2000.

Paul, R.L., “***Determination of Phosphorus in Metals and Semiconductors by Radiochemical Neutron Activation Analysis,***” Pittsburgh Conference 2001, New Orleans, LA, March 6, 2001.

Paul, R.L., “***Preparation and Certification of a Standard Reference Material for Hydrogen in Titanium Alloy,***” American Physical Society Meeting, Seattle, WA, March 12, 2001.

Phinney, C.W., “***NIST Nutritional Standard Reference Materials for Fatty Acids in Foods,***” 115th AOAC International Meeting and Exposition, Kansas City, MO, September 9, 2001.

Phinney, K.W., “***Drugs of Abuse in Human Hair: Determination of the Enantiomeric Composition of Amphetamine and Methamphetamine in Hair by Liquid Chromatography,***” 13th International Symposium on Chirality (ISCD), Orlando, FL, July 16, 2001.

Phinney, K.W., “***Standard Reference Materials for the Evaluation of Chiral Stationary Phase Performance in Liquid and Supercritical Fluid Chromatography,***” 13th International Symposium on Chirality (ISCD), Orlando, FL, July 17, 2001.

Phinney, K.W., “***Effect of Polar Additive Concentration on Chromatographic Performance of Chiral Stationary Phases in Supercritical Fluid Chromatography,***” 10th International

Symposium on Supercritical Fluid Chromatography, Extraction and Processing, Myrtle Beach, SC, August 22, 2001.

Porter, B.J., "***The National Institute of Standards and Technology Specimen Bank Project,***" International Society for Biological and Environmental Repositories Annual Meeting, Atlanta, GA, May 8, 2001.

Poster, D.L., "***Development of Solution and Transformer Oil Reference Materials for Selected Aroclors,***" 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 13, 2000.

Poster, D.L., "***Determination of a Wide Range of Polycyclic Aromatic Hydrocarbons (PAHs) in a Renewal Marine Sediment Standard Reference Material,***" 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 14, 2000.

Poster, D.L., "***Determination of Polychlorinated Biphenyl Congeners (PCBs) in Irradiated Marine Sediment,***" 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN, November 14, 2000.

Poster, D.L., "***Development of Solution and Transformer Oil Reference Materials for Selected Aroclors,***" Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 5, 2001.

Poster, D.L., "***Determination of Polychlorinated Biphenyl Congeners (PCBs) in a New Fish Tissue Standard Reference Material,***" Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 8, 2001.

Pratt, K.W., "***Primary pH Measurements at NIST,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Pratt, K.W., "***Classical Chemistry and Electrochemistry at NIST,***" presented at National Analytical Reference Laboratory, Australian Government Analytical Laboratories, Pymble, New South Wales, Australia, July 4, 2001. Invited

Pugh, R.S., "***The Northern Fur Seal: Sample Collection for the Alaska Marine Mammal Tissue Archival Project,***" Center for Coastal Environmental Health and Biomolecular Research Laboratory Seminar Series, Charleston, SC, June 27, 2001.

Rhoderick, G.C., "***Organic Gas Mixtures***" and "***Certification design and analysis,***" presented Course Material at SIM Chemical Metrology Workshop, Metrochem in Sao Paulo, Brazil, December 2000.

Salit, M.L., "***High Performance ICP-OES as a Primary Method,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Salit, M.L., "***Chemical Compositional "Matrix,"***" Reference Materials and the Traceability Chain – Chain of Fools?, Gaithersburg, MD, July 19, 2001.

Sander, L.C., “***Stationary Phase Design and Column Performance in Reversed-Phase Liquid Chromatography***,” Eastern Analytical Symposium, Atlantic City, NJ, November 1, 2000. Invited

Sander, L.C., “***Liquid Chromatography of Shape Constrained Solutes***,” Martire Symposium, Georgetown University, Washington, DC, May 5, 2001.

Sander, L.C., “***Molecular Shape and Chromatography: The Influence of PAH Structure on Retention Behavior in LC and GC***,” 18th International Society for Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 11, 2001.

Schantz, M.M., “***Speciation Analysis of Mercury and Tin Compounds in Environmental SRMs using GC-AED***,” Methylmercury (Impacts on Wildlife and Human Health) Symposium, Charleston, SC, April 9, 2001.

Schantz, M.M., “***Investigation of the Microhomogeneity of SRMs using PFE with GC/MS and GC-ECD Analysis***,” Martire Symposium, Washington, DC, May 5, 2001.

Schantz, M.M., “***Performance-based Quality Assurance Program for the Analysis of PAHs, PCB Congeners, and Chlorinated Pesticides in Marine Tissue and Sediment Samples***,” WTQA 2001, Arlington, VA, August 15, 2001.

Schantz, M.M., “***Organic Calibration RMs in Support of the Externalization of EPA’s Water Supply and Water Pollution Proficiency Testing Programs***,” WTQA 2001, Arlington, VA, August 15, 2001.

Schantz, M.M., “***Certification of PAH Concentrations in a New Marine Sediment Standard Reference Material: SRM 1041b, Organics in Marine Sediment***,” 18th International Society for Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 11, 2001.

Schantz, M.M., “***Performance-based Quality Assurance Program for the Determination of PAHs in Marine Tissue and Sediment Samples***,” 18th International Society for Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 12, 2001.

Sharpless, K.E., “***Techniques Used for Vitamin Analyses at NIST***,” International Atomic Energy Agency, Vienna, Austria, December 4, 2000. Invited

Sharpless, K.E., “***Chromatographic Separation of Fat-Soluble Vitamins and Carotenoids in Lyophilized and Liquid-Frozen Sera***,” NIST Quality Assurance Micronutrient Analysis Workshop, Orlando, Florida, April 4, 2001.

Sharpless, K.E., Schantz, M.M., Brown Thomas, J.M., Nelson, B.C., Colbert, J.C., “***Recent Developments in Food-Matrix Standard Reference Materials at NIST***,” 115th Annual Meeting of AOAC International, Kansas City, MO, September 12, 2001.

Sieber, J.R., "***Development of Quantitative X-Ray Fluorescence Methods for the Certification of Industrial Materials-Metals, Cements, and Zeolites,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Sieber, J.R., "***Sample Preparation and Other Metals-Related Activities, ILAP,***" Breckenridge, CO, July 26, 2001.

Sieber, J.R., "***Matrix-Independent XRF Methods for Certification Standard Reference Materials,***" 50th Annual Denver X-Ray Conference, Denver, CO, August 1, 2001.

Sieber, J.R., "***Calibration Maintenance-Drift Correction, A Practical Master Class,***" 22nd International Durham Conference on X-Ray Analysis, Durham, UK, September 12, 2001.

Smeller, J., "***Potassium Bromate Assay By Redox Titrimetry Using Arsenic Trioxide,***" ACS Meeting (MARM), Towson, MD, May 30, 2001.

Thorn, W.J., Murray, B., and Pulmonox Corp, "***Laboratory Demonstration of Draft Test Procedures for Accuracy and Interfering Anesthesia Agents as called out in ASTM Draft Standards for Nitric Oxide and Nitrogen Dioxide Monitors for INO,***" ASTM Subcommittee F29.11 on Nitric Oxide Delivery Systems and Monitors, Phoenix, Arizona, May 8, 2001.

Travis, J.C., "***Correction Factors for the Use of UV-visible Standard Reference Materials with Broadband Spectrophotometers,***" Eastern Analytical Symposium, Atlantic City, NJ, October 31, 2000.

Travis, J.C., "***Performance of the New Reference Spectrophotometer in the NIST Analytical Chemistry Division,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Turk, G.C., "***High-Performance Spectrochemical Analysis,***" Reading Section of the Society for Applied Spectroscopy, Reading, PA, January 18, 2001. Invited

Turk, G.C., "***Traceability and Comparability of Elemental Solution Standards,***" Pittsburgh Conference 2001, New Orleans, LA, March 4-8, 2001.

Vetter, T.W., "***Quantifying Measurement Uncertainty in Analytical Chemistry-a Simplified Practical Approach,***" Measurement Science Conference 2001, Session V-B, Anaheim, CA, January 19, 2001.

Vetter, T.W., "***Gravimetric Determination of Sodium in Serum,***" Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Vetter, T.W., "***Quantifying Measurement Uncertainty: An Approach Using the Kragten Spreadsheet,***" 2001 Measurement Quality Conference, Session Five, Gaithersburg, MD, September 14, 2001.

Waddell, E.A., "***One-Step Laser Ablation and Surface Modification of Polymer Substrates for the Fabrication of Microfluidic Devices***," National Conference of the National Organization for the Professional Advancement of Chemists and Chemical Engineers, Baltimore, MD, April 9, 2001.

Waddell, E.A., "***Fabrication and Surface Modification of Polymer Substrates for Microfluidic Devices***," SmallTalk 2001, San Diego, CA, August 27, 2001.

Waddell, E.A., "***Laser Ablation of Polymer Substrates for the Fabrication of Microfluidic Devices***," LabAutomation 2001-Conference of the Association of Laboratory Automation, San Diego, CA, August 27, 2001.

Waddell, E.A., "***Fabrication and Surface Modification of Polymer Substrates for Microfluidic Devices***," Association for Laboratory Automation SmallTalk 2001, San Diego, CA, August 27, 2001.

Waddell, E.A., "***Laser Ablation of Polymer Substrates for the Fabrication of Microfluidic Devices***," Frederick Conference on Capillary Electrophoresis, Frederick, MD, October 2, 2001.

Welch, M.J., "***NIST Measurement Methods and Standard Reference Materials for Health Status Markers: Current Program and Future Challenges***," Measurement Science Conference, Disneyland Hotel, Anaheim, CA, January, 18, 2001. Invited

Wise, S.A., "***Establishment of the NIST Program in Organic Analytical Chemistry***," Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001. Invited

Wise, S.A., "***The Role of Chromatography in the Development of Standard Reference Materials for the Determination of Trace Level Organic Constituents***," Martire Symposium, Department of Chemistry, Georgetown University, Washington, DC, May 4, 2001.

Wise, S.A., "***Development of Standard Reference Materials for Nutraceuticals***," 115th Annual Meeting of AOAC International, Kansas City, MO, September 9, 2001. Invited

Wise, S.A., "***Standard Reference Materials for the Determination of Polycyclic Aromatic Compounds – 20 Years of Progress***," 18th International Symposium on Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 10, 2001. Invited

Wise, S.A., "***Determination of Nitro-Substituted Polycyclic Aromatic Hydrocarbons in Air and Diesel Particulate Standard Reference Materials***," 18th International Symposium on Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 11, 2001.

Wise, S.A., "***Current Status of NIST Standard Reference Materials (SRMs) for the Determination of Polycyclic Aromatic Hydrocarbons in Environmental Matrices***," 18th International Symposium on Polycyclic Aromatic Compounds (ISPAC-18), Cincinnati, OH, September 11, 2001.

Yu, L.L., "*Detection Limits of Isotope Dilution Analysis using Plasma Source Mass Spectrometry*," Pittsburgh Conference 2001, New Orleans, LA, March 4-8, 2001.

Zeisler, R., "*Experiences in High Rate Counting with Digital Pulse Processors*," 2000 American Nuclear Society International Meeting, Washington, DC, November 13, 2000. Invited

Zeisler, R., "*Development of Urban Air Particulate Matter SRMs for Support of Advanced Air Quality Monitoring and Mitigation Efforts*," Pittsburgh Conference 2001, New Orleans, LA, March 5, 2001.

Zeisler, R., "*Reference Material for Direct Analysis of Solid Samples by AAS and ICP-MS*," Pittsburgh Conference 2001, New Orleans, LA, March 6, 2001.

Zeisler, R., "*Development of Reference Materials for the PM_{2.5} National Research Program*," 3rd International Symposium on Nuclear Analytical Chemistry, Halifax, Nova Scotia, June 12, 2001. Invited

3. Cooperative Research Development Agreements (CRADAs) and Consortia

High Performance ICP Optical Emission Spectrometry
Perkin Elmer Instruments

Low NO SRM Development Project: SRM 2737: 0.500 ppm, NO
and SRM 2738 1.000 ppm, NO
AIGER/Scott Specialty Gases/ NIST Joint

Development of Glow Discharge Optical Emission Spectrometry
LECO Corporation

4. Patent Awards and Applications

Choquette, S.J., and Ramos, B., "Fabrication of Diffractive Optics with Reuseable Release Agent," (US Provisional Patent Application Serial Number 6,245,412) Issued: June 12, 2001.

Johnson, T.J., Waddell, E.A., Ross, D.J., and Locascio, L.E., "Surface Charge Modification within Preformed Polymer Microchannels with Multiple Applications including Modulating Electroosmotic Flow and Creating Microarrays," (US Provisional Patent Application Serial Number 60/260,577).

Locascio, L.E., Barker, S.L.R. and Ross D.J., "Polyelectrolyte Derivatization of Microfluidic Devices," (US Provisional Patent Application Serial Number 60/232,951).

Ross, D.J. and Locascio, L.E., "Simplified Methods for Electrokinetic Focusing in Microfluidic Devices," (US Provisional Patent Application Docket Number 01-029PA2).

Waddell, E.A., Johnson, T.J., Kramer, G.W., and Locascio, L.E., "Chemical Modification of Substrates by Photo-ablation under Different Local Atmospheres and Chemical Environments for the Fabrication of Microstructures," (US Provisional Patent Application Serial Number 60/256,653).

5. Measurement Services

5a. SRM Activities (Certificates Issued in FY2001)

131g	Low Alloy Silicon Steel	1684b	Nitric Oxide in Nitrogen
154c	Titanium Dioxide	1775	Refractory Alloy MP35N
200a	Potassium Dihydrogen Phosphate	1828a	Ethanol in Water Solutions
361	AISI 4340 Steel	1884a	Portland Cement
363	Chromium-Vanadium Steel (Modified)	1885a	Portland Cement
661	AISI 4340 Steel	1887a	Portland Cement
663	Chromium-Vanadium Steel (Modified)	1935	Potassium Dichromate Solution
861	Nickel-based Superalloy	1951a	Lipids in Frozen Human Serum
870	Column Performance.Test Mixture for Liquid Chromotography	1975	Diesel Particulate Extract
877	Chiral Selectivity Test Mixtures for Liquid Chromotography.	2269	Perdeuterated PAH-1 Solution in Hexane/Toluene
913a	Uric Acid	2270	Perdeuterated PAH-11 Solution in Hexane/Toluene
917b	D-Glucose (Dextrose)	2273	DDTsand Metabolites in Isooctane
935a	Potassium Dichromate for UV Absorbance	2274	PCB Congener Solution-II in Isooctane
966	Toxic Metals in Bovine Blood	2275	Chlorinated Pesticide Solution-II in Isooctane
975a	Isotopic Standard for Chlorine	2276	Three Planar PCB Congeners in Isooctane
1566b	Oyster Tissue	2975	Diesel Particulate Matter (Industrial Forklift)
1570a	Trace Elements in Spinach Leaves	2175	Refractory Alloy MP35N
1632c	Trace Elements in Coal	2612a	Carbon Monoxide in Nitrogen
1635	Trace Elements in Coal - Sub-bituminous	2613a	Carbon Monoxide in Nitrogen
1649a	Urban Dust	2614a	Carbon Monoxide in Nitrogen
1650a	Diesel Particulate Matter	2620a	Carbon Dioxide in Nitrogen
1659a	Methane in Air	2621a	Carbon Dioxide in Nitrogen
1660a	Methane in Air	2623a	Carbon Dioxide in Nitrogen
1665b	Propane in Air	2624a	Carbon Dioxide in Nitrogen
1666b	Propane in Air	2626a	Carbon Dioxide in Nitrogen
1667b	Propane in Air	2629a	Nitric Oxide in Nitrogen
1668b	Propane in Air	2630	Nitric Oxide in Nitrogen
1669b	Propane in Air	2636a	Carbon Monoxide in Nitrogen
1676	Carbon Monoxide in Air	2637a	Carbon Monoxide in Nitrogen
1679c	Carbon Monoxide in Nitrogen	2644a	Carbon Dioxide in Nitrogen
1680b	Carbon Monoxide in Nitrogen	2682b	Sulfur and Mercury in Coal
1683b	Nitric Oxide in Nitrogen	2683b	Sulfur and Mercury in Coal

2684b	Sulfur and Mercury in Coal	3113	Cobalt Standard Solution
2685b	Sulfur and Mercury in Coal	3116a	Erbium Standard Solution
2692b	Sulfur and Mercury in Coal	3126a	Iron Standard Solution
2724b	Sulfur in Fuel Oil	3127a	Lanthanum Standard Solution
2730	Hydrogen Sulfide in Nitrogen	3132	Manganese Standard Solution
2731	Hydrogen Sulfide in Nitrogen	3136	Nickel Standard Solution
2745	Carbon Dioxide in Nitrogen	3140	Platinum Standard Solution
2764	Propane in Air	3141a	Potassium Standard Solution
3000	Benzene in Methanol	3145a	Rubidium Standard Solution
3001	Toluene in Methanol	3156	Tellurium Standard Solution
3002	Ethylbenzene in Methanol	3159	Thorium Standard Solution
3003	o-Xylene in Methanol	3167a	Yttrium Standard Solution
3004	m-Xylene in Methanol	3181	Sulfate Anion Solution
3005	p-Xylene in Methanol	3191	Electrolytic Conductivity
3006	Carbon Tetrachloride in Methanol	3193	Electrolytic Conductivity
3010	Tetrachloroethylene in Methanol	3194	Electrolytic Conductivity
3087a	Metals on Filter Media	3195	Electrolytic Conductivity
3103a	Arsenic Standard Solution	3198	Electrolytic Conductivity
3108	Cadmium Standard Solution	3199	Electrolytic Conductivity
3109	Calcium Standard Solution	8506a	Moisture in Transformer Oil
3109a	Calcium Standard Solution		

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 (36) were produced in collaboration with the following companies:

Company

Air Products and Chemicals, Inc. (10)

Airgas Specialty Gases (6)

Matheson Tri-Gas, Inc. (3)

Scott Specialty Gases (17)

5b. SRD Activities

Data Release 3.0 for NIST Standard Reference Database 79 CD, P.M. Chu, F.R. Guenther, G.C. Rhoderick, National Institute of Standards and Technology, Gaithersburg, MD 20899-8393, August 2001.

5c. Calibrations

Gas Cylinder Recertifications have been provided for the following:

Air Liquide, America (5)	Scott Specialty Gases, Inc. (12)
Air Liquide, Canada (1)	Spectra Gas, Inc. (1)
Air Products and Chemicals, Inc.(36)	State of Florida Dept. of Environmental Protection (1)
Airgas Specialty Gases (2)	State of Pennsylvania Dept. of Environmental Protection (1)
BOC Gases, Inc. (41)	Wisconsin Dept. of Natural Resources (2)
Johnson Matthey Co. (4)	
National Specialty Gases (6)	
Scott Marrin, Inc. (10)	

Optical Filter Recertifications have been provided for the following:

3M (2)	BF Goodrich
Abbott Health Products, Inc.	Bio Cryst
Abbott Laboratories	Biomatrix, Inc. (2)
AGFA	Biostar, Inc.
Agfa Corporation	Bruckner Supply Company, Inc.
Agilent Tech - Germany	Cal Check (2)
Agilent Tech - Shanghai	Cangene Corporation (2)
Agilent Technologies Canada	Catalytica Pharmaceuticals
Agilent Technologies Italia S.P.A.	China Biotech Corporation
Air Products and Chemicals, Inc.	Chr. Hansen, S.A.
Albemarle Corporation	COR Therapeutics, Inc.
Alessandrini Strumentazione	Corion Corporation (2)
Alkermes, Inc.	Corixa Corporation, Inc.
Allergan, Inc.	Coulter Corporation
Alza Corporation	D.D. Williamson
Amer. Pharmaceutical Partners Inc.	Dayton T. Brown
Amgen, Inc. (2)	Dept. of the Army (2)
Analytical Standards AB	Douglas Bertrand Aerospace Fuels
Apotex Fermentation, Inc.	Duke Power Company
AstraZeneca Liquid Production Sweden	DuPont Pharmaceuticals (3)
AstraZeneca Pharmaceuticals	Dynamex (2)
Atlas Weathering Services Gp.	E.I. DuPont (2)
Augusta Service Co., Inc.	Eastman Kodak Company (3)
Aventis Pharma	Eli Lilly and Company
Badger Instruments	Enviropace Limited
Barnstead/Thermolyne Corporation	First Technology
Barr Associates, Inc.	Fisher Diagnostics
BASF Corporation	Fort Dodge Animal Health
Bausch & Lomb (2)	Fujirebio Diagnostics, Inc.
Bayer Corporation (2)	GlaxoSmithKline (4)
Beckman Coulter (2)	Hemotec
High Tech Engineering, Inc.	Hitachi Instruments (7)

Honeywell	Procter & Gamble Pharmaceuticals
J & J Merck Domestic	Promochem
Janssen Ortho LLC	Radiometer Medical A/S
Jasco, Inc. (3)	Roche Diagnostics
Johnson & Johnson Services, Inc (4)	Schering-Plough
Juliette Metrology Laboratory (2)	SGS Del Peru S.A.C.
Laboratorio Tecnológico del Uruguay	Shimadzu Scient. Instruments
Laboratory Management Systems, Inc.	Simco Electronics
Litton Systems, Inc./Airtron Division	Solvay Pharmaceuticals
Lockheed Martin	Soquimica
Lucent Technologies	SteriGenics (4)
MEMC Electronic Materials	Steris Corporation
Milliken & Company (2)	Sterling Chemicals
Monitor Labs, Inc.	Stranaska LLC (2)
Nat'l Standards of Puerto Rico, Inc.	Sunshine Instruments, Inc. (2)
Novartis Pharmaceuticals Corporation	Tennessee Valey Authority
Novopharm N.C. Inc.	TEVA Pharmaceuticals (2)
NU-TECH (2)	The Kendall Company LP
OM Pharma	The University of Iowa
Omega Optical, Inc.	Tomas Cuerda, Inc.
Optiglass Ltd.	Transcat (3)
Organon Teknika Corporation	Trinidad & Tobago Bur of Standards
Ortho Biologics	Univ. of South Florida
Ortho Biotech (4)	UOP Shreveport
Ortho-Clinical Diagnostics	US FDA
Par Pharmaceutical, Inc.	Varian
Parke-Davis Pharmaceuticals Ltd.	Visteon Corporation, Nashville Glass
Perkin Elmer Italia SPA (2)	Whitehall-Robins Healthcare (2)
Petroleo Brasileiro	Wyeth Media Ireland
Pfizer, Inc. (6)	XOMA (US) LLC
Pharmacia Corporation	

NIST Standard Reference Photometer (SRP) Certifications/Re-certifications :

SRP 13, U.S. EPA Region 7; January 2001
 SRP 4, U.S. EPA Region 9; February 2001
 SRP 10, U.S. EPA Region 4; April 2001
 SRP 5, U.S. EPA Region 6; May 2001
 SRP 7, U.S. EPA Radiation and Indoor Environments; May/June 2001
 SRP 25, Direcc~o Geral do Ambiente, Lisbon, Portugal; June 2001
 SRP 12, Ontario Ministry of Environment, Toronto, Canada; August 2001
 SRP 21, NSW-Environment Protection Authority, Sydney, Australia; September/October 2001

Ozone Instrument Calibrations:

PCI-Wedeco Environmental Technologies, Inc.; December 20-21, 2000
IN USA, Inc.; April 11-12, 2001
NASA, Langley Research Center; July 13, 2001

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
DuPont Chemical
Johns Hopkins University
Neutek, Inc.
NIST Center for Neutron Research
Pacific Northwest National Laboratory
Penn State University
Southern University
Texas Instruments
Tufts University
University of California - Berkeley
University of Puerto Rico
U.S. Army Research Laboratory
X-Ray Optical Systems, Inc

6. Committee Assignments

C.M. Beck II

ASTM Committee E01 Analytical-Chemistry of Metals,
Ores, and Related Materials
Member and Secretary of Subcommittee
E01.01, Iron, Steel, and Ferro-alloys
Member and Task Group Chairman
Subcommittee E01.02, Ores, Concentrates,
and Related Materials

P.R. Becker

Fort Johnson Five (committee representing NIST, NOAA, University of Charleston,
Medical
University of South Carolina, and the South Carolina DNR Marine Resources Division
regarding inter-organizational activities and policies at the Fort Johnson Campus)
NOAA/NOS/CCEHBT Hollings Marine Laboratory Science Board

J. Brown Thomas

Admissions Committee/Sigma Xi Scientific Research Society, NIST Chapter

H.H. Chen-Mayer

SIGMA XI, NIST Chapter, Secretary

S.J. Choquette

ASTM E13, Molecular Spectroscopy

ASTM E13.05, Vice Chair, Raman Spectroscopy

P.M. Chu

ASTM E13.03 Molecular and Infrared Spectroscopy

P.C. DeRose

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

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

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

G.W. Kramer

ASTM E01, Analytical Chemistry for Metals, Ores, and Related Materials

ASTM E01.25, Laboratory Data Interchange and Information Management

ASTM E31, Healthcare Informatics

ASTM E31.13, Clinical Laboratory Information Management

NCCLS Lab Automation Area Committee

W.R. Kelly

NIST Consortium on Casting of Aerospace Alloys

J.R. Kucklick

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

R.M. Lindstrom

Co-chair, Organizing Committee, 10th International Conference on Modern Trends in Activation Analysis
k₀ 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

W.A. MacCrehan

ASTM E30, Forensics

S.A. Margolis

ASTM D27 on Insulating Transformer Fluids
Chairman, ASTM D27.06.07 on Standard D1533

W.E. May

American Chemical Society; President's Blue Ribbon Panel on Minority Affairs; Minority Affairs Committee; Board Task Force on Increasing Minority Representation in Chemical Academic Community
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
NASA Administrator's Fellowship Program, Review Panel Member
National Science Foundation, Chemical Instrumentation for Junior Faculty Panel Member
North American Metrology Collaboration (NORAMET); Rapporteur for Chemical Metrology and Chair of Executive Council

Peer Review Panel, Institute for National Measurement Standards,
Canadian National Research Council; Chemical Metrology Subpanel (Chair)
Peer Review Panel, National Australian Reference Laboratory (Chair)
Howard University; Chemistry Department Review Panel

W.R. Miller

AIGER Committee for Direct Measurement of Non-Methane Hydrocarbons

B.C. Nelson

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

R.M. Parris

Washington Chromatography Discussion Group (Secretary)

K.W. Phinney

Washington Chromatography Discussion Group (Vice President/Program Chairman)

D.L. Poster

U.S. EPA Chesapeake Bay Program Air Subcommittee

K.W. Pratt

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

M.L. Salit

CITAC Measurement Uncertainty and
Traceability Working Group

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, Ores and Related Materials
 Subcommittee E01-21 Reference Materials
Proficiency Testing and Laboratory Accreditation
U.S. Technical Advisory Group to
ISO TC28 Petroleum products

K.E. Sharpless

AOAC International Technical Division on Reference Materials-Executive Committee
member (at-large) and liaison to the Food Nutrition Methods Committee

M.V. Smith

ASTM E13, Molecular Spectroscopy and Chromatography
E 13.01, UV/Visible Subcommittee

W. J. Thorn

ASTM F29.01.11 Nitric Oxide Devices

J.C. Travis

ASTM E13, Molecular Spectroscopy and Chromatography
E 13.01, Chair, UV/Visible Subcommittee

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)

M.J. Welch

CAP Standards Committee (consultant)
NCCLS Subcommittee on Cholesterol Reference Materials
ISO 212 Standards for Clinical Lab Testing
AACC Troponin Subcommittee

E. White V

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

USI 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

S.A. Wise

Chair – Elect, 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 Division
Chairman, International Scientific Committee on Nuclear Analytical Methods in the Life
Sciences

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
Secretary, International Committee on Activation Analysis

7. Editorships

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

Fresenius' Journal of Analytical Chemistry (Regional Editor, North America)

Journal of Microcolumn Separations (Editorial Advisory Board)

Polycyclic Aromatic Compounds (Topical Editor)

L.E. Locascio

Journal of Analytical Chemistry

Editorial Advisory Board

R. Zeisler

Editorial Advisory Board, Journal of Radioanalytical and Nuclear Chemistry

8. Seminars

March 23, 2001

Alyssa C. Henry, Louisiana State University

"Surface Modification and Characterization of Commercial Poly(methylmethacrylate) Sheets
Laying the Foundation for Microanalytical Devices"

(Division Sponsor: L.E. Locascio)

July 6, 2001

Gerard Hoehm, CIPHERGEN Biosystems, Inc.

"ProteinChip Systems and Arrays: Protein Expression Profiling and Protein Analysis on a Single
Platform"

(Division Sponsor: C. Nelson)

July 30, 2001

Robert Hanner, American Museum of Natural History

“Beyond DNA: The Need for Tissue Collection and Preservation Standards Research to Enhance the Growing Value of Frozen Tissue Collection”

(Division Sponsor: B. Porter)

9. Conferences/Workshops/Sessions Sponsored/Co-Sponsored**September 17-22, 2000**

8th International Symposium on Biological and Environmental Reference Materials (BERM-8), session entitled “Trace Elements,” Natcher Center, NIH, Bethesda, MD (R. Zeisler)

November 10-12, 2000

Workshop “Instrumentation for Environmental Science,” National Science Foundation, Boston, MA (P.M. Chu)

November 15, 2000

NIST/NOAA/NMFS Intercomparison Meeting, Nashville, TN (J.R. Kucklick, P.R. Becker)

November 20, 2000

Eyerce Armstrong-Poston, Corning

“NMR – Based Materials Characterization”

(Division Sponsor: W.E. May)

November 27, 2000

Menno Blaauw

“Fermi’s Deception”

(Division Sponsor: R.M. Lindstrom)

November 28-30, 2000

Workshop Demonstrate Draft Test Procedures for Accuracy and Interfering Anesthesia Agents as called out in ASTM F29.01.11 Draft Standards for Nitric Oxide and Nitrogen Dioxide, NIST, Gaithersburg, MD (W.J. Thorn)

November 28, 2000

Dr. M. Allen Northrup, Cepheid

“Miniaturization of Nucleic Acid Analysis Systems – From Concept to Commercialization”

(Division Sponsor: L.E. Locascio)

December 4-7, 2000

Gas Metrology Course, Sociedade Brasileira de Metrologia, Sao Paulo, Brazil (F.R. Guenther, W.D. Dorko, G.C. Rhoderick)

January 4, 2001

Karen W. Phinney

“The Role of Chiral Separations in Pharmaceutical, Agricultural, and Forensic Chemistry”
(CSTL Research Seminar Series Sponsor: R. VanZee)

March 4-6, 2001

“NIST Centennial Celebration at PITTCON 2001,” Pittsburgh Conference, Morial Convention Center, New Orleans, LA (W.E. May)

March 4-7, 2001

Gas NTRM Providers Workshop, New Orleans, LA (F.R. Guenther)

March 23, 2001

Alyssa C. Henry, Louisiana State University

“Surface Modification and Characterization of Commercial Poly(methylmethacrylate) Sheets Laying the Foundation for Microanalytical Devices”
(Division Sponsor: L.E. Locascio)

March 30, 2001

Jan Andersson, University of Muenster

“Stationary Phases of Variable Polarity for HPLC”
(Division Sponsor: S.A. Wise)

April 4, 2001

NIST Micronutrients Measurement Quality Assurance Workshop, Orlando, FL
(J.M. Brown Thomas)

April 30, 2001

"NIST XML: An Informal Workshop,"
Gaithersburg, MD (G.W. Kramer and T.C. Allison)

June 29, 2001

Willie E. May (CSTL), Stanley Rasberry (NIST-retired), James Mitchell (Lucent), James McLaren (NRC-Canada), George Klee (Mayo Clinic), Frank Schweighardt (Air Products and Chemicals), Eric Lifshin (University of Albany), and Hratch Semerjian (CSTL)
NIST Centennial Lecture Series, “NIST Contributions to Chemical Measurement Science and Technology: Highlights From the Past and a Look to the Future,” ‘From building the foundation of industry.....to addressing current and future needs.’
(Division Sponsor: W.E. May)

July 6, 2001

Gerard Hoehm, CIPHERGEN Biosystems, Inc.

“Protein Chip Systems and Arrays: Protein Expression Profiling and Protein Analysis on a Single Platform”
(Division Sponsor: C. Nelson)

July 19, 2001

Marc Salit, CSTL

“Chemical Compositional ‘Matrix’ RMs and the Traceability Chain – Chain of Foods?”
(Division Sponsor: J.D. Fassett)

July 30, 2001

Robert Hanner, American Museum of Natural History

“Beyond DNA: The Need for Tissue Collection and Preservation Standards Research to Enhance the Growing Value of Frozen Tissue Collection”
(Division Sponsor: B. Porter)

August 16, 2001

“Provision of Proficiency Test Studies for U.S. EPA/State’s Water Programs by NIST-Accredited Providers,” NIST Workshop, Arlington, VA. (R.M. Parris)

September 6-7, 2001

ACD representative on planning committee for the “NIST-NOAA-Industry Atmospheric Chemistry Workshop,” Gaithersburg, MD (P.M. Chu)

November 1-2, 2001

Vibrational Spectroscopy-Based Sensor Systems, International Society for Optical Engineering, Newton, MA (P.M. Chu)

April 14-19, 2002

14th Radiochemical Conference, Marianske Lazne, Czech Republic (R. Zeisler)

June 16-21, 2002

7th International Conference on Nuclear Analytical Methods in the Life Sciences, Antalya, Turkey (R. Greenberg/R. Zeisler)

10. Other**Awards****W.R. Kelly and S.E. Long**

Research & Development Magazine, R&D 100 Award for “Process for the Determination of Hg in Fossil Fuels by ID-CV-ICP-MS”
October 2001

T.J. Johnson

Association for Laboratory Automation Conference second place in the overall competition for his poster on “Surface Charge Analysis of Laser-Ablated and Imprinted Polymer Microchannels.”
January 2001

W.E. May

American Chemical Society, 2001 Distinguished Service in the Advancement of Analytical Chemistry Award
August 2001

E.A. Waddell

Association for Laboratory Automation Conference First Prize in student/postdoc category Poster Competition at Lab Automation 2001, for his poster entitled "One-Step Laser Ablation and Surface Modification of Polymer substrates for the Fabrication of Microfluidic Devices."
January 2001

S.A. Wise

2001 International Society of Polycyclic Aromatic Hydrocarbon Research Award
September 2001

Formal International Comparison Activities**CCQM Key Comparison Studies^a:**

*CCQM-K6	Cholesterol in Human Serum
*CCQM-K6/Supp.	Cholesterol in Human Serum
*CCQM-K7	BTX in Nitrogen/Air - high level
*CCQM-K10	Benzene, Toluene, Xylene in Nitrogen – low level
*CCQM-K11	Glucose in Human Serum (IMEP-17 materials)
*CCQM-K12	Creatinine in Human Serum (IMEP-17 materials)
CCQM-K13	Lead and cadmium in Sediment
CCQM-K16	Natural Gas (with >C ₄)
CCQM-K17	pH (of unknown phthalate buffer)
CCQM-K21	4,4'-DDT in Fish Oil
CCQM-K24	Cadmium in Rice

CCQM Pilot Comparison Studies^b:

*CCQM-P8	Glucose in Serum
*CCQM-P9	Creatinine in Serum
CCQM-P10.2	gamma-HCH in Fish Oil
*CCQM-P11	Arsenic in Shell Fish
CCQM-P12	Lead in Wine
CCQM-P13	Calcium, Copper, and Cadmium in Food Digest (2 levels)
CCQM-P14	Calcium in Serum
*CCQM-P17	PCBs in Sediment
CCQM-P18	Tributyl tin in Sediment
*CCQM-P19.1	Assay of HCl in Solution
*CCQM-P20	Organic Purity Assessment
CCQM-P22	Electrolytic Conductivity
CCQM-P23	Primary Standards of CO in Nitrogen
CCQM-P26	Sulfur in Fuels (2 levels)

CCQM-P27 LSD in Human Urine
CCQM-P29 Zinc in Rice

SIM Comparison Studies:

*SIM.8.P1.2 Chlorinated Pesticides in Organic Solvent
*SIM.8.P4 pH (4-8)
*SIM.8.P7 Pesticides in Food
*SIM.8.P5.2 Vitamins, Minerals, and Fatty Acids in Infant Formula
*SIM.8.P6 UV/Visible Spectrophotometry Wavelength Standard (Holmium oxide)
*SIM.8.P8 Natural gas (composition and caloric value)
*SIM.8.S1 NIST-CENAM Automotive Emissions Bilateral

Formal Bilateral Comparison Studies:

*NIST-NMi Primary Gas Standard Mixture Comparisons

^a Results from Key Comparison are entered into BIPM Database to assess equivalence of measurement capabilities among National Measurement Institutes

^b Pilot Comparison Studies are conducted to evaluate the efficacy of various methods for the determination of various analytes in various matrices prior to preceding to a Key Comparison

*Analytical Chemistry Division serves as Comparison Study Leader.

Guest Researchers (GR)/Research Associates (RA)

Donald Becker (GR) - National Institute of Standards and Technology
Ronald Bishop (GR) – Smithsonian Institution
James Blackman (GR) – Smithsonian Institution
Kathie Lee Burns (GR) - North Carolina State University
R.G. Downing (GR) – R.G. Downing Research, Inc.
Ozlem Ertas (GR) – Ege University
John Languard (GR) – National Institute of Standards and Technology
Stephen McGuire (GR) – Southern University and A&M College
Martin Peschke (GR) - University of Applied Science, Fachhochschule
Wiesbaden (Germany)
Lucas P. Revellon (GR) North Carolina State University
M. Alexander Ruehl, (GR) - University of Applied Science, Fachhochschule
Wiesbaden (Germany)
Patricia Schubert (GR) – University of Vienna (Austria)
Silke Tutschku (GR) – University of Leipzig (Germany)