

W. Greg Miller, PhD



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Education

Postdoctoral Fellow in Clinical Chemistry
Department of Pathology, Division of Clinical Chemistry Ohio State University,
College of Medicine, Columbus, Ohio 1973 - 1975

PhD Biochemistry
University of Arizona, Tucson,
Arizona 1973

Licenses & Certifications

American Board of Clinical Chemistry, 1976

Selected Awards and Honors (5-ish)

Russell J. Eilers Memorial Award, Clinical and Laboratory Standards Institute, 2018

European Organization for External Quality Assurance Providers in Laboratory
Medicine, Adam Uldall Lectureship Award, 2018

Wadim Roman Traveling Lectureship Award, Australasian Association of Clinical
Biochemists, 2016

Robert Schaffer Award for Outstanding Achievements in the Development of
Standards for Use in Laboratory Medicine, International Federation of Clinical

Chemistry and Laboratory Medicine, 2014

Outstanding Lifetime Achievement Award in Clinical Chemistry and Laboratory Medicine, American Association for Clinical Chemistry, 2007

Recent Grants and Funding (past 5-ish years)

This will be suppressed when no grants.

Editorial Advisory Boards (current)

This will be suppressed when none.

Professional Service (current) (outside VCU)

National Kidney Foundation-Laboratory Engagement Initiative

Joint Committee for Traceability in Laboratory Medicine, Chair

National Institute of Diabetes and Digestive and Kidney Diseases (NIH),
Laboratory Working Group, Chair

International Federation of Clinical Chemistry and Laboratory Medicine (IFCC); Working group for Commutability in Metrological Traceability, Chair

International Federation of Clinical Chemistry and Laboratory Medicine (IFCC); Scientific Division, JCTLM liaison

International Consortium for Harmonization of Clinical Laboratory Results and European Organization for External Quality Assurance Providers in Laboratory Medicine joint task force to monitor harmonization of measurands in laboratory medicine through data aggregation (HALMA); steering committee and chair, working group on commutability.

International Organization for Standardization (ISO), Technical Committee 212, Clinical laboratory testing and in vitro diagnostic test systems

Recent Invited Presentations (10-ish most impactful past 5 years)

The Global Creation and Monitoring of the Traceability of Test Results in the Medical Laboratory. September 28, 2021, Winterswijk, the Netherlands (virtual): "The Importance of Commutable Reference Materials and EQA Samples."

European Organization for External Quality Assurance Providers in Laboratory Medicine, 2021 Symposium (virtual) 13-14 October 2021: "Harmonization through EQA data aggregation."

Joint Committee for Traceability in Laboratory Medicine, International Consortium for Harmonization of Clinical Laboratory Results, International Federation of Clinical Chemistry and Laboratory Medicine Workshop - Overcoming challenges to global standardization of clinical laboratory testing: reference materials and regulation. Organizing committee chair, panelist and speaker. "New metrological traceability tools; ISO 21151 harmonization protocol and IFCC recommendations for correction for non- commutability of matrix-based CRM." 6-10 December 2021 (virtual).

Walter Reed National Military Medical Center, Nephrology Grand Rounds, "How does uncertainty influence estimated glomerular filtration rate." April 19, 2022 (virtual).

IFCC World Lab, Seoul, South Korea, June 28, 2022. Symposium on the Future of Standardization in Laboratory Medicine: Challenges and Opportunities; "Importance of commutability for metrological traceability in standardization and harmonization" (virtual).

32nd Malaysian Association of Clinical Biochemists Conference, September 12-13, 2022; "Recommendations for Implementing the CKD-EPI 2021 Race- Free Equations for Estimated Glomerular Filtration Rate" (virtual).

27th Meeting of the General Conference on Weights and Measures; "The work of the JCTLM to overcome challenges to the global standardization of clinical laboratory testing." November 16, 2022, Versailles, France.

Academy of Clinical Laboratory Physicians and Scientists; "What is Metrological Traceability and why should you care." June 8, 2023, Charlottesville, VA.

National Institute of Metrology, Thailand; "Commutability issues in standardization and harmonization of clinical laboratory results." September 11, 2023, virtual.

Cutting Edge of Laboratory Medicine in Europe, Analytical Performance Specifications: moving from models to practical recommendations; "The role of APS in international guidelines and standards dealing with metrological traceability in laboratory medicine." October 12-13, 2023, Prague, Czech Republic.

Ministry of Health of Ukraine, Association for Quality Assurance in Laboratory Medicine. 9th Scientific and Applied Conference. "Harmonization in medical laboratories: Why is it important?" October 24, 2023, Kyiv, Ukraine (virtual).

Joint Committee for Traceability in Laboratory Medicine Workshop on EQA Schemes Elucidating the Clinical Suitability of Laboratory Results. "Should individual labs adjust results to make them traceable or leave this to manufacturers. What about a lab wanting to align instruments from different suppliers?" December 4-5, 2023, Sevres, France.

Selected Publications (most impactful total of 20-ish)

Peer reviewed papers

Miller WG, Schimmel H, Rej R, Greenberg N, Ceriotti F, Burns C, Budd JR, Weykamp C, Delatour V, Nilsson G, MacKenzie F, Panteghini M, Keller T, Camara JE, Zegers I, Vesper HW, for the IFCC Working Group on Commutability. IFCC Working Group Recommendations for Assessing Commutability Part 1: General Experimental Design. Clin Chem 2018;64:447-54.

Nilsson G, Budd JR, Greenberg N, Delatour V, Rej R, Panteghini M, Ceriotti F, Schimmel H, Weykamp C, Keller T, Camara JE, Burns C, Vesper HW, MacKenzie F, **Miller WG**, for the IFCC Working Group on Commutability. IFCC Working Group Recommendations for Assessing Commutability Part 2: Using the Difference in Bias Between a Reference Material and Clinical Samples. Clin Chem 2018;64:455- 64.

Budd JR, Weykamp C, Rej R, MacKenzie F, Ceriotti F, Greenberg N, Camara JE, Schimmel H, Vesper HW, Keller T, Delatour V, Panteghini M, Burns C, **Miller WG**, for the IFCC Working Group on Commutability. IFCC Working Group Recommendations for Assessing Commutability Part 3: Using the Calibration Effectiveness of a Reference Material. Clin Chem 2018;64:465-74.

Miller WG, Bachmann LM, Fleming JK, Delanghe JR, Parsa A, Narva AS. Recommendations for Reporting Low and High Values for Urine Albumin and Total Protein. Clin Chem 2019;65:349-50 (letter).

Miller WG, Bachmann LM, Delanghe JR, Inker LA, Jones GRD, Vasalotti JA. Optimal use of biomarkers for chronic kidney disease. Clin Chem 2019;65:949-55.

Miller WG, Budd J, Greenberg N, Weykamp C, Althaus H, Schimmel H, Panteghini M, Delatour V, Ceriotti F, Keller T, Hawkins D, Burns C, Rej R, Camara JE, MacKenzie F, van der Hagen E, Vesper H, for the IFCC Working Group on Commutability. IFCC Working Group Recommendations for Correction of Bias Caused by Noncommutability of a Certified Reference Material Used in the Calibration Hierarchy of an End-User Measurement Procedure. Clin Chem 2020;66:769-78.

Ellis AD, Gross AR, Budd JR, **Miller WG**. Influence of reagent lots and multiple measuring systems on estimating the coefficient of variation from quality control data; implications for uncertainty estimation and interpretation of QC results. Clin Chem Lab Med 2020;58:1829-35.

van der Hagen EAE, Weykamp C, Sandberg S, Stavelin AV, MacKenzie F, **Miller WG**. Feasibility for aggregation of commutable external quality assessment results to evaluate metrological traceability and agreement among results. Clin Chem Lab Med 2021;59:117-25.

Miller WG, Greenberg N. Harmonization/standardization: where are we now. *J Applied Lab Med* 2021;6:510-21.

Delgado C, Baweja M, Ríos Burrows N, Crews DC, Eneanya ND, Gadegbeku CA, Inker LA, Mendu ML, **Miller WG**, Moxey-Mims MM, Roberts GV, St. Peter WL, Warfield C, Powe NR. Reassessing the Inclusion of Race in Diagnosing Kidney Diseases: An Interim Report from the NKF-ASN Task Force. *J Am Soc Nephrol.* 2021;32:1305-17 and *Am J Kidney Dis* 2021;78:103-15.

Delgado C, Baweja M, Crews DC, Eneanya ND, Gadegbeku CA, Inker LA, Mendu ML, **Miller WG**, Moxey-Mims MM, Roberts GV, St Peter WL, Warfield C, Powe NR. A unifying approach for GFR estimation: recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease. *J Am Soc Nephrol.* 2021 and *Am J Kidney Dis.* *J Am Soc Nephrol* 2021;32:2994- 3015 and *Am J Kidney Dis* 2022;79:268-88.

Miller WG, Kaufman HW, Levey AS, Straseski JA, Wilhelms KW, Yu H-Y, Klutts JS, Hilborne LH, Horowitz GL, Lieske J, Ennis JL, Bowling JL, Lewis MJ, Montgomery E, Vassalotti JA, Inker LA. National Kidney Foundation Laboratory Engagement Working Group Recommendations for Implementing the CKD-EPI 2021 Race- Free Equations for Estimated Glomerular Filtration Rate: Practical Guidance for Clinical Laboratories. *Clin Chem* 2022;68:511-20.

Miller WG, Myers G, Cobbaert CM, Young IS, Theodorsson E, Wielgosz RI, Westwood S, Maniquet S, Gillery P. Overcoming challenges regarding reference materials and regulations that influence global standardization of medical laboratory testing results. *Clin Chem Lab Med* 2022;61:48-54.

Miller WG, Greenberg, N, Panteghini M, Budd JR, Johansen JV. Guidance on which calibrators in a metrologically traceable calibration hierarchy must be commutable with clinical samples. *Clin Chem* 2023;69:228-38.

Miller WG, Keller T, Budd J, Johansen JV, Panteghini M, Greenberg N, Delatour V, Ceriotti F, Deprez L, Rej R, Camara JE, MacKenzie F, Lyle AN, van der Hagen E, Burns C, Fauskanger P, Sandberg S, for the IFCC Working Group on Commutability in Metrological Traceability. Recommendations for setting a criterion for assessing commutability of secondary calibrator certified reference materials. *Clin Chem* 2023;69:966-75.

Sandberg S, Fauskanger P, Johansen JV, Keller T, Budd J, Greenberg N, Rej R, Panteghini M, Delatour V, Ceriotti F, Deprez L, Camara JE, MacKenzie F, Lyle AN, van der Hagen E, Burns C, **Miller WG**, for the IFCC Working Group on Commutability in Metrological Traceability. Recommendations for setting a criterion and assessing commutability of sample materials used in external quality assessment/proficiency testing schemes. Clin Chem 2023;69:1227-37.

Book Chapters and Monographs

Johansen JV, Bachmann LM, Durham AP, **Miller WG**, Person NB, Babic N, D'Agostino PM, Danilenko U, Goldford MD, Long IS, Stanford JE, Vandepoele, Varlan AR. User Evaluation of Acceptability of a Reagent Lot Change, 2nd Edition. CLSI document EP26, Clinical and Laboratory Standards Institute, 2022.

De Vore K, Agrawal Y, Alspach TD, Budd JR, Durazo-Arvizu RA, Eckfeldt JH, Goodwin K, Halim A-B, Long TA, **Miller WG**, Pampori N, Thomas J, Vaks JE, Vesper HW. Evaluation of Commutability of Processed Samples; Fourth Edition. CLSI document EP14, Clinical and Laboratory Standards Institute, 2022.

McEnroe RJ, Dimeski G, Durham AP, Miller JJ, **Miller WG**, Petrides V, Rheinheimer DW, Smith MB, Sonntag O, Warren KL, Zaharik ML. Interference Testing in Clinical Chemistry, Third Edition. CLSI document EP07, Clinical and Laboratory Standards Institute, Wayne, PA, 2018.

Miller WG, Sandberg S. Quality Management. In: Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics, 8th Edition, ed. by Rifai N, Horvath AR, Wittwer CT. Elsevier 2019, p 90-107.

Miller WG, Sandberg S. Quality control of the analytical examination process. In: Tietz Textbook of Laboratory Medicine, 7th Edition, ed. by Rifai N, Chiu RWK, Young I, Burnham CD, Wittwer CT. Elsevier 2023, p 129-163.

Miller WG. Standardization and harmonization of analytical examination results. In: Tietz Textbook of Laboratory Medicine, 7th Edition, ed. by Rifai N, Chiu RWK, Young I, Burnham CD, Wittwer CT. Elsevier 2023, p 164 (full version available on ExpertConsult.com).

Patents

Media

Posters/Abstracts