

# Grace R. Williams, Ph.D

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Department of Pathology  
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## Licenses & Certifications

### *Board Certifications*

American Board of Clinical Chemistry (ABCC) certified Diplomat of the American Board of Clinical Chemistry (DABCC). 10/2021

## Education

### *Postgraduate Medical Training*

Post-doctoral Clinical Chemistry fellowship accredited by The Commission on Accreditation in Clinical Chemistry (ComACC).  
Dartmouth-Hitchcock Medical Center, Lebanon, NH. 2017-2019

### *Graduate Education*

Doctorate of Philosophy, Department of Pharmacology and Experimental Therapeutics. Medical University of South Carolina, Charleston, SC. 2012-2017

### *Undergraduate Education*

Bachelor of Arts, Department of Chemistry. University of North Carolina at Asheville. Asheville, NC. 2006-2010

## Advising and Mentoring

2020 – Medical Student Rosellen Provost was awarded a competitive summer research fellowship through the VCU College of Medicine. Due to the COVID-19 pandemic, the project pivoted to writing a case-study manuscript for publication.

2021– Medical Technologist masters student Modesola Akala performed her graduate research project with Dr. Williams. She successfully defended her thesis in January of 2021.

## Virginia Commonwealth University and Medical Center Appointments

### *Present*

Assistant Professor of Pathology, Collateral, Virginia Commonwealth University  
August 2019 (in-progress)

## VCU Service

VCU faculty senate alternate, 2020

## Professional Organizations

May 2017 - Present	American Association for Clinical Chemistry (AACC)
September 2019- Present	Society of Forensic Toxicologists (SOFT)

## Professional Service (current)

2022-2024 Elected to Position as Chair-Elect for Capital Section of AACC

### *Teaching – Didactic and Clinical*

November 2020 to present	Clinical Mass Spectrometry Systems lectures (CLLS 612), CLS master students
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January 2020 to present	Chemistry rotation lectures, pathology residents 04/2020 (in-progress) Toxicology rotation lectures- pathology residents
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09/2019 (in-progress) Pathology Resident  
Didactic Conferences (3)

May-July 2020

Summer Fellow Advisor, 3rd year medical student awarded competitive summer fellowship to work in toxicology lab,

May 2019

Lecturer, Therapeutic Drug Monitoring, Medical Laboratory Scientist didactic course

## Editorial Advisory Boards

Invited to be Chair holder on Document Committee for the Clinical and Laboratory Standards Institute (CLSI) EP:37 Supplemental Tables for Interference Testing in Chemistry. **2022**

Contributor on editorial committee for a new version of CLSI EP:23 (Laboratory Quality Control Based on Risk Management), **October 2020**

## Recent Invited Presentations

*Internal/VCU*

Reducing Laboratory Turn-Around Times, Pathology Grand Rounds, VCUHS **July 2022**

New Rules in the Old Dominion: Marijuana legalization in Virginia, Pathology Grand Rounds, VCUHS **July 2021**

Toxicology Testing at VCUH: Present and Future Options, Seminar and Discussion, VCUHS Department of Surgery- Division of Transplant Surgery, Transplant Teaching Conference **April 2021**

*National*

AACC Academy Distinguished Abstract Presentation; Detection of 58 Fentanyl Analogs Using Fentanyl Immunoassays. Annual meeting of the American Association for Clinical Chemistry. **August 2022**

Panel member in the Medical University of South Carolina graduate school career day, discussing clinical chemistry with masters and doctoral students.

## November 2020

Pharmacogenomics: General Principles and Relevance to Opioid Addiction, Special Seminar, University of Utah, ARUP laboratories, Clinical Chemistry Section **October 2018**

Phosphoproteomic comparison of osteoblasts stimulated with forteo or biased PTH1R ligand as determined via SILAC, Pathology Grand Rounds, Dartmouth Hitchcock, Medical Center **January 2017**

Phosphoproteomic comparison of osteoblasts stimulated with forteo or biased PTH1R ligand as determined via SILAC, Special Seminar, John's Hopkins Medical Center **November 2016**

## Posters or Other Unsolicited Presentations

### *National*

Wolf CE, Pokhai AA, Poklis JL, and **Williams GR**. Detectability of  $\Delta$ 10-THC's Chiral Analogs in Urine by Six Commercially Available Homogeneous Immunoassays. The National Institute of Justice Forensic Science R&D Symposium, Orlando FL. *Abstract Accepted* **2023**

Akala MA, Wolf CE, and **Williams GR**. Detection of 58 Fentanyl Analogs Using Fentanyl Immunoassays. Annual Meeting of the Society of Forensic Toxicologists. Cleveland OH. **2022** 10/2022

Nanco CR, Poklis JL, **Williams GR**, and Wolf CE. Prevalence of Cannabinoids (Delta-8 & Delta-9 THC and CBD) in urine from Pain Management Compliance Testing. Annual Meeting of the Society of Forensic Toxicologists. Cleveland OH. **2022** 10/2022

Karin KN, Holt AK, Smith ER, Taylor AM, Pregarman L, Wolf CE, **Williams GR**, Peace MR, and Poklis JL. Separation and Quantitation of Natural and Unnatural THC Isomers and Derivatives by HPLC-MS/MS. Annual Meeting of the Society of Forensic Toxicologists. Cleveland OH. **2022** 10/2022

Akala MA, Wolf CE, and **Williams GR**. Detection of 58 Fentanyl Analogs Using Fentanyl Immunoassays. American Association for Clinical Chemistry annual meeting. Chicago, IL **2022**. 08/2022

**Williams GR** and Bachmann LM. Surprising findings Using Continuous

Temperature Monitoring. American Association for Clinical Chemistry annual meeting. Chicago, IL **2022**. 08/2022

Colón-Cartagena L, Wolf CE, **Williams GR**. Lead Toxicity in Female Buckshot Victim of Childbearing Age: A Treatment Conundrum. American Academy of Clinical Toxicology- North American Congress of Clinical Toxicology. Virtual Conference **2021** 10/2021

Nanco C, Poklis JL, **Williams GR**, and Wolf CE. Determination of Cannabinoids in Meconium. Annual Meeting of the Society of Forensic Toxicologists. Nashville TN. **2021**

**Williams GR**, Wolf CE, Dooley PN, Wills BK, Bachmann LM; Strontium Interference in Clinical Calcium Assays; Annual Meeting of the American Association for Clinical Chemistry; Virtual Conference; **2020**

**Williams GR**, Tsongalis GJ, Barney RE, Cook LJ, Geno KA, Nerenz RD; Clinical Utility of Pharmacogenomics; Annual Meeting of the American Association for Clinical Chemistry; Virtual Conference; **2020**

**Williams GR**, Menlyadiev MR, Bachmann LM, Tolan NV, Vitamin C Interference in Clinical Chemistry Assays; Annual Meeting of the American Association for Clinical Chemistry; Virtual Conference; **November 2020**

**Williams GR**, Downs JW, Wolf CE, Cumpston K, Wills B; Hypercalcemia and Pseudohypercalcemia from Strontium Supplementation, North American Congress of Clinical Toxicology, Virtual Conference, **August 2020**

**Williams, G. R.**, Gregory J. Tsongalis, Lionel D. Lewis, Robert D. Nerenz. April 2019, MALDI-MS-based Validation of a 107 SNP Pharmacogenomic Panel, Oral Presentation, The Association for Mass Spectrometry: Applications to the Clinical Laboratory annual meeting. Palm Springs CA. **April 2019**

**Williams, G. R.**, Cervinski, M., Assessment of Panhematin interference in commonly ordered chemistry tests. American Association for Clinical Chemistry Annual Meeting. Chicago, IL, **August 2018**

**Williams, G. R.**, Pharmacogenomics and Opioid Addiction: Can SNP's predict susceptibility? Brown Bag Oral Presentation. American Association for Clinical Chemistry Annual Meeting. Chicago, IL. **August 2018**

**Williams, G.R.**, Bethard, J.R., Berkaw, M.N., Luttrell, L.M., Ball, L.E. Phosphoproteomic comparison of osteoblasts stimulated with forteo or biased PTH1R ligand as determined via SILAC. Human Proteome Organization. Boston, MA, **May 2016**

**Williams, G.R.**, Bethard, J.R., Berkaw, M.N., Luttrell, L.M., Ball, L.E. Phosphorylation Dynamics of PTH Receptor Signaling In Osteoblasts with Biased and Unbiased Agonists. American Society for Mass Spectrometry. St. Louis, MO, **May 2015**

**Williams, G.R.**, Bethard, J.R., Berkaw, M.N., Luttrell, L.M., Ball, L.E. Phosphorylation Dynamics of PTH Receptor Signaling In Osteoblasts. American Society for Mass Spectrometry. Baltimore, MD, **2014**

**Williams, G.R.**, Bethard, J.R., Berkaw, M.N., Luttrell, L.M., Ball, L.E. Phosphorylation Dynamics Of Type 1 Parathyroid Hormone Receptor (PTH1R) Signaling In Osteoblasts As Explored By SILAC Mass Spectrometry. Great Lakes GPCR Retreat. Cleveland, OH, **August 2013**

**Williams, G.R.**, Berkaw, M.N., Luttrell, L.M., Ball, L.E. SILAC-Based Quantitative Analysis of Phosphorylation Dynamics in Osteoblasts Simulated with Parathyroid Hormone (PTH 1-34). American Society for Bone and Mineral Research. Baltimore, MD, **June 2013**

**Williams, G.R.**, Schilling, M., Berkaw, M.N., Luttrell, L.M., Ball L.E. Phosphorylation Dynamics in Osteoblasts Simulated with Parathyroid Hormone (PTH). ASBMB Symposium: Posttranslational Modifications: Detection and Physiological Evaluation. Tahoe, CA, **September 2012**

## Recent Publications

### *Peer Reviewed Publications*

**Williams GR**, Akala Modesola, and Wolf CE. Detection of 58 Fentanyl Analogs using ARK Fentanyl II and Immunalysis Fentanyl Immunoassays. Clin. Biochem. Accepted **2022**.

**Williams GR**, Downs JW, Wolf CE, Cumpston KL, Tobarran N, Wills BK, Bachmann M, Evaluation of Strontium Interference in Calcium Measurement Procedures and Content in Supplements as Measured by ICP-MS. J Appl Lab Med. Accepted **2022**

**Williams GR**, Tsongalis GJ, Lewis LD, Barney RE, Cook LJ, Geno KA, Nerenz RD, Potential Impact of Pharmacogenomic Single Nucleotide Variants in a Rural Cauca-sian Population, J Appl Lab Med. Accepted **2022**

Provost RG, Downs JW, Wolf CE, and **Williams GR**; The high cost of low quality: Recurring hypoglycemia in a 63-yo man. Clinical Chemistry journal; 2021 Nov 1:67 (11):1450-1454

Downs JW, Wolf CE, **Williams GR**, Cumpston KL, Kershner E, and Wills BK, Negligible Nux Vomica: Homeopathic Nux Vomica Remedies Don't Contain any Strychnine? Toxicon. 2021 Sep;200:1-2. doi: 10.1016/j.toxicon.2021.06.014

**Williams GR**, Cook L, Lewis LD, Tsongalis GJ, Nerenz RD. Clinical Validation of a 106-SNV MALDI-ToF MS Pharmacogenomic Panel. J Appl Lab Med. 2020 May 1;5 (3):454-466.

**Williams, G.R.**, Nerenz, R., Not your ordinary rash: A Clinical Case study on Variegate Porphyrria. Clin Chem. Jun **2019**, 65 (6) 733-737; DOI: 10.1373/clinchem.2018.291344

**Williams, G.R.**, Cervinski, M.A., Nerenz, R., Assessment of Biotin Interference with Qualitative Point-of-Care hCG Test Devices. Clin Biochem. **2018**. 53:168-170. doi: 10.1016/j.clinbiochem.2018.01.018

**Williams, G.R.**, Bethard, J.R., Berkaw, M.N., Nagel, A.K., Luttrell, L.M., Ball, L.E. **2016** Exploring G protein-coupled receptor signalling networks using SILAC-based phosphoproteomics. Methods. Jan 1;92:36-50. doi: 10.1016/j.ymeth.2015.06.022.

### *Book Chapters or Monographs*

**Williams GR** and Downs JW, Magnesium, Patty's Industrial Hygiene and Toxicology (7th edition) (Invited Chapter Accepted **2023**)

**Williams GR**, What operational procedures are essential for clinical laboratory infrastructure standardization? AACC Academy Scientific Short, December 2022.