CURRICULUM VITAE
JENNIFER L. POWERS CARSON, Ph.D.

Jennifer Powers Carson
Feb 5, 2025

DATE: Feb 2025

PERSONAL INFORMATION:
Place of Birth: Lexington, TN

CITIZENSHIP: USA

ADDRESS AND TELEPHONE NUMBERS:

Office: Washington University School of Medicine
Department of Medicine
Division of Endocrinology, Metabolism & Lipid Research
660 South Euclid, MSC 8127-0021-06
St. Louis, MO 63110
Work: (314) 273-1378
powers.jennifer.l@wustl.edu

PRESENT POSITION:

2020-present Associate Professor of Medicine
2018-present Director, Core Laboratory for Clinical Studies (CLCS)

EDUCATION:

1988 B.S. Chemistry, Summa Cum Laude. Minors: Biology, Mathematics
Union University, Jackson, TN

1993 Ph.D. Chemistry
Dissertation Topic: Cellular and Enzymatic Studies with Novel Adrenergic Analogs and Effectors.
Minor Areas: Analytic, Organic
Advisor: Dr. Sheldon W. May
Georgia Institute of Technology, Atlanta, GA

2014-2016 Clinical Chemistry Fellowship,
Department of Pathology, University of Utah, Salt Lake City, UT

Additional Training:

1996 Pharmacology for Chemists. A three-day American Chemical Society short course, Orlando, FL.

2006 Modeling Biomolecules, a week-long workshop at the Modeling Biomolecules Center at Jackson State University, Jackson, MS.

2006 Residential School on Medicinal Chemistry, a week-long course at Drew University, Madison, NJ.

2012 Fundamentals of Molecular Pathology, a nine-lesson on-line continuing education course from the American Association for Clinical Chemistry.

2013 A Practical Guide to LC-MS/MS for the Clinical Laboratory, Short Course, American Association of Clinical Chemists Conference, Houston, TX.

2016 Clinical Proteomics, 8 CE unit short course during Mass Spectroscopy: Applications to the Clinical Lab Conference, Palm Springs, CA.
2016 Introduction to Quantitative Proteomics, 8 CE unit short course during Mass Spectroscopy: Applications to the Clinical Lab Conference, Palm Springs, CA.
2017 Practical LC-MS Maintenance and Troubleshooting, short course, Mass Spectroscopy: Applications to the Clinical Lab, Palm Springs, CA.
2017 Clinical Laboratory Leadership and Management, AACC Online Course, 12 CE hours.
2018 Getting Started with Quantitative LC-MS/MS in the Diagnostic Laboratory, Applications to the Clinical Lab Conference, Palm Springs, CA.

ACADEMIC POSITIONS / EMPLOYMENT:

1985-1988 Lab Assistant, Department of Chemistry and Physics
Union University, Jackson, TN

1987 Summer Undergraduate Research Assistant, Department of Chemistry
Advisor: Dr. Raymond F. Borkman
Georgia Institute of Technology, Atlanta, GA

1988-1993 Graduate Teaching Assistant, Department of Chemistry
Georgia Institute of Technology, Atlanta, GA

1993-1994 Temporary Assistant Professor of Chemistry, Department of Chemistry & Biochemistry
Kennesaw State University, Kennesaw, GA

1994-1999 Assistant Professor of Chemistry, Department of Chemistry & Biochemistry
Kennesaw State University, Kennesaw, GA

1999-2008 Associate Professor of Chemistry & Biochemistry, Department of Chemistry & Biochemistry
Kennesaw State University, Kennesaw, GA

2008-2014 Professor of Chemistry, Department of Chemistry & Biochemistry
Kennesaw State University, Kennesaw, GA

2016-2020 Assistant Professor of Medicine; Department of Medicine; Division of Endocrinology, Metabolism and Lipid Research
Washington University, Saint Louis, MO

Sabbatical and Summer Experiences:

1995, 1996 Guest Researcher, Pharmacology Department, Emory University, Atlanta, GA
Studied NMDA-type glutamate receptors and mutants to obtain a better understanding of structure and function in response to spermine and pH changes.

2013 Guest Researcher, Centers for Disease Control & Prevention (NCEH), Atlanta, GA
Protein Biomarkers Lab/Clinical Chemistry Group
Improved tryptic digest conditions and developed separation conditions to isolate hemoglobin adducts from hemoglobin using ion-exchange chromatography. Quantified tryptic peptides using LC-MS/MS techniques.

CLINICAL TITLE AND RESPONSIBILITIES:

2016-6/30/18 Assistant Director, Core Laboratory for Clinical Studies
Ensure accurate and timely results for lab testing for clinic and research specimens, ensure compliance with state and federal regulations (CAP, CLIA) regarding laboratory result testing, reporting and safety, make decisions on new laboratory equipment and tests, ensure proper training and education of laboratory staff

07/01/18-present Director, Core Laboratory for Clinical Studies

Ensure that quality laboratory testing is performed in an accurate and timely manner according to verified protocols for clinic and research specimens; provide consultation with physicians and researchers as necessary regarding test methods or results; perform regular review of quality control data and proficiency testing data for all CAP/CLIA regulated analytes; ensure compliance with state and federal regulations regarding general laboratory testing and safety requirements, ensuring staff are properly certified and continually trained and all instruments and reagents are appropriately maintained and stored; provide pricing quotations and obtain IRB approval for contracted studies with outside researchers; bring in new instrumentation and assays as needed for research and clinic needs.

TEACHING TITLE AND RESPONSIBILITIES:

1993-2014 Temporary/Assistant Professor/Associate Professor/Professor of Chemistry, Department of Chemistry & Biochemistry, Kennesaw State University, Kennesaw, GA

Lower Level Undergraduate: Fundamentals of Chemistry & Lab, Introduction to Organic and Biochemistry & Lab, General Chemistry II.

Upper Level Undergraduate: Biochemistry I and II, Biochemistry Laboratory, Advanced Topics in Biochemistry, Advanced Biochemistry Laboratory; Medicinal Chemistry; Chemical Literature, Culture and Chemistry: Pharmaceutical Sciences in Puerto Rico.

2014-2016 Clinical Chemistry Fellow, Department of Pathology, Univ. of Utah, Salt Lake City, UT

Lectures given in Univ. of Utah courses and Rounds:

Pathology Resident Rounds (numerous)
Clinical Chemistry Correlations (numerous)
Acids, Bases, and Buffers (PATH 3200 – Spring 2015, Spring 2016)
Clinical Enzymology (PATH 6900 – Fall 2015)

2016-present Assistant/Associate Professor, Division of Endocrinology, Metabolism, and Lipid Research

Participate in training of residents through attendance and discussion in courses, case discussions, and research seminars.

Presented a research seminar entitled "Alternate Biomarkers for Management of Diabetes during Pregnancy," March 2020.

Participate in education of laboratory staff (Core Laboratory for Clinical Studies) by preparing and giving quarterly lectures on relevant topics to our laboratory testing.

2019-present Guest Lecturer, Dept. of Pathology & Immunology, Washington University in St. Louis

Teach lectures for residents and fellows:

1. Drug Metabolism; 2. Therapeutic Drug Monitoring (TDM); 3. Porphyrins & Porphyrias; 4. Enzyme Kinetics; 5. Pharmacokinetics

UNIVERSITY COMMITTEES AND SCHOOL OF MEDICINE APPOINTMENTS:

1993-2014 Student Affiliates of the American Chemical Society Faculty Advisor; Learning Outcomes Committee; Assessment of Learning Committee; Department Tenure and Promotion Committee; Department Faculty Council; Science and Math Elections Committee; Science and Math Curriculum Committee; Science and Math Tenure and Promotion Committee, Chair; Science and Match Search Committee; New Building/Move-In Committee

BOARD CERTIFICATION:

2016 American Board of Clinical Chemistry, Certificate #1188

HONORS AND AWARDS:

1998 Invited guest, Mu Rho Sigma Faculty Appreciation Tea
1998 Who's Who Among America's Teachers
2002, 2004 Nominated for College of Science and Mathematics Teaching Award
2004 College of Science and Mathematics Advising Award
2004 Nominated for College of Science and Mathematics Service Award
2004 Who's Who Among Executives and Professionals
2006 Nominated for College of Science and Mathematics Teaching Award
2009 Union University Chemistry Department Alumni Award
2010 Georgia Local Section American Chemical Society Service Award
2015 Paul E. Strandjord Young Investigator Award
2015, 2016 National Academy of Clinical Biochemistry Distinguished Abstract Award
2022 AACC Academy Distinguished Abstract Award
2023 AACC Pediatric and Maternal-Fetal Division Best Abstract Award
2024 Union University Alumni Award-Distinguished Achievement in Research Sciences

Release Time and Travel Awards:

1998 Grant Writing Release Time Award
2002 Faculty Development Funds
2013 CETL Semester Sabbatical
2017, 2018 Lab Director Travel Grant (Association for Mass Spectrometry: Applications to the Clinical Lab)

EDITORIAL RESPONSIBILITIES:

1995 – 2014 Peer-Reviewer
McGraw Hill, Pearson/Benjamin Cummings, Oxford Univ. Press, John Wiley & Sons, Saunders College Publishing, Chemical Education Resources, Blackwell Publishing, Cengage, Journal of Chemical Education, Current Drug Delivery, Journal of Open Enzyme Inhibition

2018 – present Peer-Reviewer
Journal of Biological Education, Journal of Applied Laboratory Medicine, Clinical Toxicology, Clinical Biochemistry, Journal of Mass Spectrometry & Advances in the Clinical Lab, Endocrine Practice, Journal of Chemical Education

NATIONAL PANELS, COMMITTEES, BOARDS

2017-2021 Clinical & Laboratory Standards Institute Document Development Committee Volunteer (C64: Quantitative Measurement of Proteins and Peptides by Mass Spectrometry)
2020 -present Treasurer, AACC, Division of Endocrinology

COMMUNITY SERVICE CONTRIBUTIONS:

1998, 2003, 2010 Conference Organizer
Southeastern Undergraduate Research Conference, Kennesaw State Univ. (1998, 2003, 2010)
Southeastern Regional American Chemical Society Conference (SERMACS 2003), Atlanta, GA
2017 Beta Tester for American Association of Clinical Chemistry's Learning Lab https://www.aacc.org/education-and-career/learning-lab
2020 Mini-Review of J Clin Endocrinol Metab paper for AACC 2020 Endocrine Division Meeting

PROFESSIONAL SOCIETIES AND ORGANIZATIONS:

1989- American Chemical Society
2006-2009 American Chemical Society, Georgia Section, Treasurer

2017-2022 Member, Academy of Clinical Laboratory Physicians and Scientists
2012-present American Association for Clinical Chemistry (AACC); now known as Association for Diagnostics and Laboratory Medicine (ADLM)
2017 -present Clinical and Laboratory Standards Institute

MAJOR INVITED LECTURESHIPS: N/A

CONSULTING RELATIONSHIPS AND BOARD MEMBERSHIPS: N/A

RESEARCH SUPPORT:

Past

a. Governmental

- National Science Foundation, Instrumentation & Laboratory Improvement Grant
  1998-1999
  PI Patricia H. Reggio, Co-PI **Jennifer Powers**
  $62,245
- National Science Foundation Adaptation & Implementation Grant, DUE #9920288
  1999-2001
  PI Vicky L.H. Bevilacqua, Co-PI **Jennifer Powers**
  $45,023
- NIH S10OD027006 (**Powers, PI**)
  08/09/19-08/08/21 (no cost extension)
  Acquisition of a Single Molecule Counting Platform for Use in Quantifying Low Abundance Signaling Molecules
  $94,508
- NIH 2P30DK020579-41 (**Semenkovich, PI**)
  12/01/18-11/30/20 (no cost extension)
  WU Diabetes Research Center Pilot and Feasibility Award (SubAward:**Powers, PI**)
  Alternate Biomarkers for Better Management of Diabetes During Pregnancy and Prediction of Neonatal Complications in Pregnant Women with Diabetes
  $50,000
- NIH 1R43AG084351-01 (Cravens, PI)
  10/1/23 – 9/30/24
  Development of enzymatic tools for rapid measurement of Advanced Glycation End Product (AGE)-protein adduct.
  $277,623 (Powers Carson portion is 0.5 calendar months)

Non-governmental

- Summer Stipend, 1995, summer salary
- Faculty Development Grant, 1996, summer salary
- Mentor Protégé Scholarship Grants, 1998, 1999, 2000, 2003, 2006, 2010, 2011, 2012
  $2000 each
- Merck-AAAS Undergraduate Science Research Program
  2003-2006
  PI Marina Koether, Co-PI **J. Powers**
  $60,000

Current

a. Governmental

- NIH/NIDDK 2P30DK056341-21 (Klein, PI)
  04/2021 – 03/2026
  Nutrition Obesity Research Center Core
  $75,270 (Dr. Powers Carson's portion)

- NIH P30DK020579 (Semenkovich, PI)
  2/27/18 - 11/30/22
  Diabetes Research Center
  $151,000 Annual Direct Costs (Dr. Powers Carson's portion)

TRAINING / MENTEE RECORD:

Past Trainees / Mentees

1996-2014 Mentored 39 undergraduates in laboratory research projects

2017 NIDDK Summer Medical Student Research Program in Diabetes and Obesity
Mason Young
University of Arkansas for Medical Sciences, College of Medicine

2018 NIDDK Summer Medical Student Research Program in Diabetes and Obesity
Kiyah Anderson, MD
University of Tennessee graduate

BIBLIOGRAPHY:

Original Peer-reviewed Journal Articles:

1. **Powers JL**, Plaskon R, Olsen GA, May SW. Structural requirements for cocaine-sensitive and -insensitive uptake of phenethylamines into the adrenal chromaffin cell. J Neurochem. 1995;65(5):2031-2042.
2. May SW, Young FK, **Powers JL**, Gill-Woznichak MM. Mechanism-based inactivation of dopamine β-monooxygenase in adrenal chromaffin cells. Biochem Biophys Res Comm. 1996;228:278-284.
3. Traynelis SF, Burgess MF, Zheng F, Lyuboslavsky P, **Powers JL.** Control of voltage-independent zinc inhibition of NMDA receptors by the NR1 subunit. J Neurosci. 1998;18(16):6163-6175.
4. Bevilacqua VLH, **Powers JL,** Tran C, Jain SS, Chabayta R, Vogelien DL, Rascati RJ, Hall M, Diehl K. Collaboration between chemistry and biology to introduce spectroscopy, electrophoresis, and molecular biology as tools for biochemistry. J Chem Educ. 2002;79(11):1311-1313.
5. **Powers JL,** Andrews CS, St. Antoine CC, Jain SS, Bevilacqua VH. An SDS-PAGE examination of protein quaternary structure and disulfide bonding for a biochemistry laboratory. J Chem Educ. 2005;82(1):93-95.
6. **Powers JL,** Kiesman NE, Tran CM, Brown JH, Bevilacqua VLH. Lactate dehydrogenase kinetics and inhibition using a microplate reader. Biochem Molec Biol Educ. 2007 Jul;35(4):287-292.
7. **Powers JL,** Rippe KD, Imarhia K, Swift A, Scholten M, Islam N. A direct, competitive ELISA as a quantitative technique for small molecules. J Chem Educ. 2012;89:1587-1590.
8. **Powers JL**, Buys S, Fletcher D, Melis R, Johnson-Davis K, Lyon E, Malmberg EM, McMillin GA. Multi-gene and drug interaction approach for tamoxifen metabolite patterns reveals possible involvement of CYP2C9, CYP2C19 and ABCB1. J Clin Pharmacol. 2016 Dec;56(12):1570-1581.

9. **Powers JL,** Strathmann FG, Straseski JA. Thyroglobulin test strategies: Initial thyroglobulin antibody screen with reflex allows for cost savings. Am J Clin Pathol. 2017 Mar;147(3):309-314.
10. **Powers JL**, Rasmussen NN, Hurst D, Strathmann FG. Up in smoke: Uncovering a lack of evidence for proton pump inhibitors as a source of tetrahydrocannibol immunoassay false positives. Pain Medicine 2018 Nov; 19(11):2196-2200.
11. **Powers JL,** Best DH, Grenache DG. Genotype-phenotype correlations of glucose 6-phosphate deficient variants throughout an activity distribution. J Appl Lab Med 2018 May; 2(6):841-850.
12. Lifke V, Kollmorgen G, Manuilova E, Oelschlaegel O, Hillringhaus L, Widmann M, vonArnim CAF, Otto M, Christenson RH, **Powers JL**, Shaw LM, Hansson O, Doecke JD, Li QX, Teunissen C, Tumani H, Blennow K. Elecsys® Total-Tau and Phospho-Tau (181P) CSF assays: Analytical Performance of the Novel, Fully Automated Immunoassays for Quantification of Tau Proteins in Human Cerebrospinal Fluid. Clin Biochem 2019 Oct; 72:30-38.
13. **Powers Carson, Jennifer** and Arora, Jyoti. Glycated Serum Proteins and Albumin but not Glycated Albumin Show Negative Correlation with BMI in an Overweight/Obese, Diabetic Population from the United States with Elevated BMI. Clin Biochem 2023, 120:110654. PMID: 37757966.
14. Markov AM, Jasim S, **Carson JP**. A Puzzling Case of Elevated Parathyroid Hormone. J Appl Lab Med. 2024 Mar 1;9(2):399-403. doi: 10.1093/jalm/jfad078. PMID: 38084943.
15. **Powers Carson J**, Arora J, Carter E. Glycated Albumin to Predict Adverse Neonatal Outcomes among Women with Diabetes and Overweight or Obese Body Mass Index. J Appl Lab Med. 2024 Nov 4;9(6):938-948. PMID: 39087706.
16. Al-Bahadili H, **Powers Carson J**, Markov A, Jasim S. The Complex Web of Interferences With Thyroid Function Tests. Endocr Pract. 2025 Jan;31(1):92-101. doi: 10.1016/j.eprac.2024.10.007. Epub 2024 Oct 29. PMID: 39477092.

Reviews, Chapters, Letters, and Editorials (including Invited):

1. **Powers JL**. Real-Life Biochemistry Projects. Reaching Through Teaching 1997: 10 (2): 46.
2. **Powers JL.** Acetylcholine. Four additional, separate articles in this chemical encyclopedia include: (1) Acne Medications, (2) Dopamine, (3) Neurotransmitters, and (4) Norepinephrine. *In* Chemistry: Foundations and Applications, Lagowski J J, ed. Macmillan Reference USA: New York, 2004.
3. ***Powers J.*** *Future of Mass Spectrometry: New Techniques Could Offer Faster and Simpler Sample Preparation. Clinical and Forensic Toxicology News, June 2015. (AACC/CAP, ISSN 2374-9679).*
4. **Powers JL** and Strathmann FG. Proton Pump Inhibitors and THC Urine Drug Screens: An Update. Therapeutic Drug Management and Toxicology Division News, June 2018.
5. **Powers, Jennifer L.** Are higher fasting blood [glucose] concentrations associated with higher risk for developing myocardial infarction in individuals without diabetes? Invited submission for Clinical Chemistry 2018 Mar; 64:615-616.
6. **Powers JL.** Reducing Preanalytical Variability of Bone Turnover Markers. Clinical Laboratory News, May 2019.
7. **Powers Carson, Jennifer.** A simpler and sensitive mass spectrometry method for quantitation of plasma amyloid peptides? J Appl Lab Medicine, 2021 Jul; 6(4):816-819. An invited editorial.
8. **Powers Carson, Jennifer** and Gronowski, Ann M. Letter to the Editor from Powers Carson and Gronowski: "New Cutoffs for the Biochemical Diagnosis of Adrenal Insufficiency after ACTH Stimulation using Specific Cortisol Assays." J Endocr Soc. 2021. Aug 12;5(10):bvab136. doi: 10.1210/jendso/bvab136.
9. **Powers Carson, Jennifer**. Glycated Albumin: What do laboratorians need to know to be ready for this testing? Invited short review for AACC. Jan 31, 2023; https://www.aacc.org/science-and-research/scientific-shorts/2023/glycated-albumin-what-do-laboratorians-need-to-know-to-be-ready-for-this-testing

10. **Powers Carson, Jennifer** and Joely Straseski. Thyroglobulin Testing Updates and Unanswered Questions. Invited short review for ADLM. Aug 13, 2024; Thyroglobulin Testing Updates and Unanswered Questions | myadlm.org
11. **Powers Carson, Jennifer.** Has Teplizumab availability changed laboratory testing for type 1 diabetes? Short review for ADLM. Nov 26, 2024; https://myadlm.org/science-and-research/scientific-shorts/2024/has-teplizumab-availability-changed-laboratory-testing-for-type-1-diabetes

Conference Abstracts:

Selected Research Presentations only prior to 2001:

1. **Powers JL**, May SW. Structural requirements for uptake at the cocaine-sensitive site of the adrenal medullary chromaffin cell. Medicinal Chemistry Division of the American Chemical Society, Washington, D. C., August 1992.
2. Jain SS, **Powers JL**, Tran C, Chabayta R, Bevilacqua VLH. Biochemistry I Lab Project: Development of protein assay experiments using a microplate photometer and investigation of protein quaternary structure using electrophoresis. 221st ACS National Meeting, San Diego, CA, April 2001 and at the Southeastern Regional Undergraduate Research Conference—SURC 2001—at Georgia Southern University, Statesboro, GA. April 2001.
3. **Powers JL,** Tran C, Jain SS, Chabayta R, Bevilacqua VLH. Using a microplate photometer for spectroscopy-based experiments in a student biochemistry lab. 224th National American Chemical Society Meeting, Boston, MA, August 2002.
4. Andrews CS, St. Antoine CC, **Powers JL.** Examining protein quaternary structure in an undergraduate biochemistry laboratory. Poster Presentations at Georgia Academy of Science, March 2003 AND 8th Annual KSU Symposium of Student Scholars, April 2003. Podium Presentation at Southeastern Undergraduate Research Conference (SURC-03), Kennesaw State University, Kennesaw, GA, April 2003.
5. **Powers JL**, Kiesman N, Tran C, Jain S, Brown J, Bevilacqua VLH. Use of a microplate reader for protein assays and a fixed-time enzyme kinetics assay. Poster # 800.15 at Experimental Biology 2005, San Diego, CA, April 2005.
6. Imarhia K, Clark M, Islam N, **Powers J.** Optimization of a competitive ELISA to detect digoxin in a biochemistry undergraduate laboratory. Herty Memorial Undergraduate Research Symposium, Spelman University, Atlanta, GA, March 2008. Also presented at the 13th Annual Symposium of Student Scholars, Kennesaw State University, Kennesaw, GA, April 2008.
7. **Powers J**, Kim J, Oso D, Tulachan S, Przeluska J, Jenkins P, Walden S. Expression of ABCB1 in the human adrenocortical cell line H295R. Experimental Biology 2012, San Diego, CA, April 2012.
8. Raymond C, **Powers J**. ABCB1 expression in adrenocortical cells is uniquely regulated compared to other cell types. 18th Annual Symposium of Student Scholars, Kennesaw State University, Kennesaw, GA, April 2013 and accepted for Experimental Biology 2013, Boston, MA, April 2013. Abstract published in the FASEB Journal 2013: 27: 816.3.
9. **Powers JL,** Melis R, Malmberg E, Johnson-Davis K, Buys S, Lyon E, McMillin GA. Impact of multiple CYP variants on tamoxifen metabolite concentrations. 135th Meeting of the ACS, Salt Lake City, UT, May 2015 and at Lab Medicine 2015, Univ. of Minnesota, Minneapolis, MN, May 2015. Abstract published in Ann Clin Lab Sci, July-August 2015: 45: 462.
10. **Powers JL**, Strathmann FG, Straseski JA. Screen with reflex to better test utilization: A cost analysis of thyroglobulin testing strategies. 2015 Annual Meeting of the AACC, Atlanta, GA, July 2015. Selected for oral presentation and at Lab Solutions Summit: Value-based Clinical Lab Models, AACC Virtual Conference, September 2015.

11. **Powers, JL.** Genotype-Phenotype Associations for Low Glucose-6-Phosphate Dehydrogenase Activity in Red Blood Cells, Academy of Clinical Laboratory Physicians and Scientists (ACLPS), Birmingham, AL, June 2016.
12. **Powers JL**, Rasmussen NN, Hurst D, Strathmann FG. Up in smoke: Uncovering a lack of evidence for proton pump inhibitors as a source of THC immunoassay false positives. AAAC Conference, Philadelphia, PA, July 2016.
13. Merrigan SD, **Powers JL**, Johnson-Davis, KL. LC-MS/MS method for quantitative analysis of Clozapine, its major metabolites (norclozapine and clozapine N-oxide), and trazodone in serum. MSACL 2017-Accelerating Clinical Mass Spectrometry, Palm Springs, CA, Jan 2017.
14. *Young, Mason and **Powers, Jennifer**. Development of a Glycated Albumin Assay for Earlier Detection of Gestational Diabetes Mellitus. 9th Annual NIDDK Medical Student Research Symposium, Vanderbilt University, Nashville, TN, August 2017.
15. Kollmorgen G, Teunissen C, Christenson RH, **Powers JL**, Manuilova E, Weigel A, Lifke V. Multicenter evaluation of the analytical characteristics of the Elecsys® Total-Tau cerebrospinal fluid (CSF) and Elecsys® Phospho-Tau (181P) CSF immunoassays. Alzheimer's Association International Conference, Chicago, IL, July 2018.
16. Anderson, Kiyah and **Powers, Jennifer**. Feasibility of a Multiplexed LC-MS/MS Method for Peptides of Interest in Diabetes. 10th Annual NIDDK Medical Student Research Symposium, Vanderbilt University, Nashville, TN, August 2018.
17. **Powers J**, Blood P, Eden T, Karsteter L, Gibson D. Performance Evaluation of a Coupled Enzymatic Glycated Albumin Assay in Serum and Plasma Samples. AAAC Conference, Chicago, IL, Aug 2018.
18. Kollmorgen G, Lifke V, Rutz S, Wild N, Teunissen C, Christenson R, **Powers J**, Simon M, Eichenlaub U, Manuilova E, Buck K, Johnson S, Molinuevo JL, Blennow K. Exploring the Need for Robust Biomarker Assays in Alzheimer's Disease and Other Neurodegenerative Diseases. Vascular Dementia Congress, June 2020 (virtual).
19. Rentoul L, **Powers Carson J**, Hwang J, Jalili P, Maheshwari R. Driving the lot to lot consistency of a sandwich ELISA through critical reagent characterization. European Bioanalysis Forum, Nov 2020 (virtual).
20. **Powers JL**, Yancy C, Christenson R. Analytical Performance of the Elecsys Anti-HAVII Immunoassay on the cobas e 601 Analyzer in Samples from US Individuals. AACC Conference, Dec 2020; delayed/virtual.
21. **Powers Carson JL,** Adams R, Hallberg S. Associations between BMI and Glycated Albumin in an Overweight and Obese Caucasian Population. AACC Conference, Dec 2020; delayed/virtual.
22. Rentoul L, **Powers Carson J**, Hwang J, Jalili P, Maheshwari R. Being critical breeds confidence: Physiochemically evaluating critical reagents and building commercial RUO ELISAs. Oxford Global Biomarkers Week: Online. May 2021.
23. **Powers Carson, Jennifer** and Carter, Ebony. Glycated Albumin as a Predictor of Adverse Neonatal Events in Pregnant Women with Diabetes. Poster 943-P at the American Diabetes Association 81st Scientific Sessions, Virtual, June 2021.
24. Rutz S, Manuilova E, Mueller-Huebner L, Grimmer T, **Powers Carson J**, Christenson RH, Karpova M, Winter C, and Teunissen CE.Second-generation fully automated Elecsys cerebrospinal fluid immunoassays demonstrate high precision, reproducibility, and sample stability suitable for clinical use to aid Alzheimer's disease diagnosis. AAIC Conference 2022, 31Jul – 4 Aug 2022.
25. **Powers Carson, Jennifer** and Carter, Ebony. Glycated Albumin During Pregnancy: Preliminary Reference Intervals for a Midwestern U.S. Population and Usefulness as a Predictor of Adverse Neonatal Events. Poster A-253 at AACC Conference, Chicago, IL, Jul 2022.
26. Bagegni NA; Grigsby I; Nehring L; Luo J; **Powers Carson J**; Gibson DW; Horvath M; Clifton KK; Ademuyiwa FO; Suresh R; Frith A, et al. TK IMPACT: Treatment Monitoring of Hormone Receptor Positive (HR+), HER2 Negative (HER2-) Metastatic Breast Cancer Patients Receiving CDK 4/6

Inhibitors with DiviTum Thymidine Kinase 1 Activity. Poster OT3-11-01. San Antonio Breast Cancer Symposium 2022.

27. **Powers Carson, Jennifer;** Shin, Aleks; Kabytaev, Kuanysh. Unusually Low Glycated Albumin Results Suggest Unexpected Interference in Study Samples from Pregnant Women. Poster A-333 at AACC Conference, Anaheim, CA, Jul 2023.
28. **Powers Carson, Jennifer** and Corso, Marichu. Comparison of Two Lipoprotein(a) Methods: Validation, Sample Stability, & Patient Characteristics. Poster A-210 at AACC Conference, Anaheim, CA, Jul 2023.

Education or Leadership Presentations:

1. Bevilacqua VLH, Hawks MA, Thames EA, Padolsky L, Powers J, Hurst DP, Reggio PH. A solution conformation of substance P: A combined FT-NMR and molecular modeling project for biochemistry. 218th ACS National Meeting, New Orleans, LA, Aug. 1999.
2. *Powers JL, Bevilacqua VLH. Using computer graphics in a biochemistry laboratory. 16th Biennial Conference on Chemical Education, Ann Arbor, MI, August 2000.
3. *Powers JL, Bevilacqua VLH, Combs LL. Developing a B.S. degree in biochemistry. 221st ACS National Meeting, San Diego, CA, April 2001.
4. *Bevilacqua VLH, Powers JL, Hurst DP, Reggio PH. New model for Biochemistry I Laboratory. 221st ACS National Meeting, San Diego, CA, April 2001.
5. *Gnann DL, Lyons SL, Hutchings A, Powers JL. Increasing the visibility of the Kennesaw State University SAACS. 223rd ACS National Meeting, Orlando, FL, April 2002.
6. *Powers JL, Koether MC. Assessment of a biochemistry degree program based on student learning outcomes. 231st ACS National Meeting, Atlanta, GA, March 2006.
7. *Koether MC, Powers JL. Assessment of student learning at Kennesaw State University. 231st ACS National Meeting, Atlanta, GA, March 2006.
8. Powers JL. Undergraduate Research Conferences: Perspective as participant and host. 231st ACS National Meeting, Atlanta, GA, March 2006.
9. Powers JL. Pharmacological Chemistry: A popular upper-level elective course. 232nd ACS National Meeting, San Francisco, CA, September 2006.
10. *Powers JL, Haseltine J. Creating a chemical literature and ethics course. Southeastern Regional Meeting of the American Chemical Society (SERMACS '09), San Juan, PR, October 2009.
11. *Powers JL, Haseltine J. Teaching a Chemical Literature and Ethics Course. USG Regional STEM Institute, Univ. of West Georgia, Carrollton, GA, February 2010.

AudioVisual/Media:

1. Powers J. Screen with Reflex to Better Test Utilization: Mass Spectrometry or Immunoassay for Thyroglobulin Testing? October 27, 2015. Invited Blog: https://www.aacc.org/community/national-academy-of-clinical-biochemistry/scientific-shorts
2. On-Line Response to Publication http://pediatrics.aappublications.org/content/135/4/e1060.comments
3. Updated content for "C-peptide." http://labtestsonline.org (2017) An online health information web resource produced by the American Association of Clinical Chemists.

Educational Products (Peer-Reviewed or for CE Credits):

1. Powers JL. Glycated Proteins in Diabetes Management: HbA1c and Beyond. ARUP Laboratories Chemistry Group Seminar, Salt Lake City, UT, May 16, 2016.

2. Powers, JL. Macroenzymes: Overview and Identification. AACC Annual Conference, Philadelphia, PA, July 2016.
3. Powers, J.L.: Multiple choice questions contributed to ASCP's Pathologist Recertification Individualized Self-Assessment Examination (PRISE), 2017. Available from: http://www.ascp.org/prise#tabs-0
4. Powers, JL. Bone Turnover Markers. AACC Annual Conference, Chicago, IL, July 2018.