

Wendy S. Innis-Whitehouse, Ph.D.

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Educational Background

- B.A., Biology, Southern Adventist University, Collegedale, TN, 1981.
- Ph.D., Biochemistry, Emory University, Atlanta, GA, 1988.

Current and Previous Positions

- Assistant Professor, Dept. of Biomedical Sciences, School of Medicine, UTRGV, 2015-present.
- Co-Module Director, Cardiovascular and Respiratory Module, UTRGV SOM.
- Technical Director, Flow Cytometry Core Facility, E-RAHC, UTHSCSA, 2013-2015.
- Technical Director, Biomarkers Core Facility, E-RAHC, UTHSCSA, 2009-2015.
- Assistant Professor, Tenure-track, Department of Chemistry, University of Texas – Pan American (UTPA), 2002-2009.
- Lecturer, Dept. of Chemistry, UTPA, Edinburg, TX, 2001-2002.
- Clinical Laboratory Director, Application Technology Group, Inc., 1998-2001.
- Lab Manager, Research and Method Development Specialist, Dept. of Medicine-Division of Arteriosclerosis and Lipid Metabolism, Emory University, 1991-1998.
- Research Associate, Dept. of Pediatrics-Infectious Diseases, Emory University, 1989-1991.
- Postdoctoral Research Fellow, Dept. of Pathology, Emory University, 1988-1989.
- Assistant Professor, Depts. of Chemistry and Biology, Walla Walla College, College Place, WA, 1985-1988.

Work Experience

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- Technical Director, Flow Cytometry Core, E-RAHC, attending various training and educational seminars to acquire expertise to retain core upon resignation of previous director. Facility currently in use by E-RAHC and UTPA researchers.
- Technical Director, Biomarkers Core, E-RAHC, developed and implemented assays and procedures in support of various research projects.
- Assistant Professor of Chemistry, UTPA, teaching Biochemistry and General Chemistry lectures and labs.
- Lecturer, UTPA, teaching General Chemistry and associated labs, 2001-2002.
- Managed a clinical and research laboratory for lipid analysis, specializing in the study of cardiovascular disease and the diagnosis of disorders in lipid metabolism, Emory University School of Medicine, 1991-1998.

- Participated in a variety of clinical trials targeting the changes in lipid metabolism and risk/incidence of cardiovascular disease based on nutritional/dietary modifications, exercise application, and the administration of various drugs (for companies including Parke-Davis, Merck Sharpe and Dohme, and Bristol Myers Squibb), Emory University, 1991-1998.
- Held joint appointments in the departments of Chemistry and Biology, Walla Walla College, College Place, WA. Instructed Introductory and General Chemistry, developed integrated coursework for biochemistry and cell biology with accompanying laboratory experience.
- Developed and taught a graduate-level course in "Metabolism and Nutrition," as well as participating in team-taught graduate Biochemistry coursework, at Emory University.

Service and Recognition

- Currently serving on Central Curriculum Authority Committee (CCAC), Evaluation Subcommittee (CCAC), Academic Mentors Committee, Pre-Clerkship Committee, UTRGV Faculty Senate, and UTRGV SOM Faculty Assembly.
- Served on the IRB (Institutional Review Board) and IRBC (Institutional Radiation and Biosafety Committee), as well as various departmental committees, UTPA.
- Student advisor for chemistry department pre-pharmacy students, UTPA.
- Selected as outstanding instructor three consecutive years, Academic Enrichment Program, UTMB-Galveston Hispanic Center of Excellence Program, 2004-6.

Entrepreneurship

- Administration and development of a biotech company, Application Technology Group, Inc., focused on offering tests for cardiovascular risk factors. Initially sponsored by Emory University as a start-up firm, ATEG, Inc., specialized in the commercial development of clinical tests from research-level methodologies.
- Designed and maintained a clinical systems database to manage and analyze patient data, and generate reports on a daily and summary basis.
- Implemented enzymatic, chromatographic and immunologic assays, especially for application to clinical labs.
- Studied the biological and physicochemical effects of copolymer compounds such as F-68, and the application of these findings to the areas of immunology and cardiovascular disease, CytRx, Atlanta, GA, 1987-1988.
- Studied the biological and physicochemical effects of copolymer compounds such as F-68, and the application of these findings to the areas of immunology and cardiovascular disease, CytRx, Atlanta, GA, 1987-1988.

Selected Publications and Abstracts

1. Hefferlin, R, **W Innis**. (1983) The differential coefficient ($\square P/\square n$)ne for properties of diatomic molecules and atoms. J. Quant. Spectrosc. Radiat. Transfer 29:97- 112.
2. **Innis, WSA**, AH Merrill, Jr., and DB McCormick. (1984) Analysis of riboflavin binding by human plasma proteins. Fed. Proc. 43(4), Abs. 4103.

3. McCormick, DB, **WSA Innis**, AH Merrill, Jr., and SS Lee. (1984) "Mammalian metabolism of flavins," *in* Flavins and Flavoproteins (RC Bray, PC Engel, and SG Mayhew, eds.). Walter de Gruyter & Co., Berlin, pp. 833-846.
4. **Innis, WSA**, DB McCormick, and AH Merrill, Jr. (1985) Variations in riboflavin binding by human plasma: identification of immunoglobulins as the major proteins responsible. *Biochem. Med.* 34:151-165.
5. Merrill, AH, Jr., E Wang, **WSA Innis**, and RE Mullins. (1985) Increases in serum sphingomyelin by 1-beta-estradiol. *Lipids* 20:252-4.
6. **Innis, WSA**, DW Nixon, DR Murray, DB McCormick, and AH Merrill, Jr. (1986) Elevated riboflavin binding by plasma proteins from patients with certain types of cancer. *Proc. Soc. Exp. Biol. Med.* 181:237.
7. Merrill, AH, Jr., **WSA Innis**, and DB McCormick. (1986) Characteristics of riboflavin-binding immunoglobulins from normal human plasma. *Fed. Proc.* 45:585, Abs. 2506.
8. Merrill, AH, Jr., **WSA Innis-Whitehouse**, and DB McCormick. (1987) "Isolation and characterization of riboflavin-binding immunoglobulins from normal human serum," *in* Flavins and Flavoproteins, Ninth International Symposium (DB McCormick and DE Edmondson, eds.). Walter de Gruyter & Co., Berlin, pp. 445-448.
9. McCormick, DB, **WSA Innis**, AH Merrill, Jr., DM Bowers-Komro, M Oka, and JL Chastain. (1987) "An update on flavin metabolism in rats and humans," *in* Flavins and Flavoproteins, Ninth International Symposium (DB McCormick and DE Edmondson, eds.). Walter de Gruyter & Co., Berlin, pp.459-471.
10. Nahmias, A, B Stoll, E Hale, C Ibegbu, H Keyserling, **W Innis-Whitehouse**, R Holmes, T Spira, C Czerkinsky, and F Lee. (1991) IgA-secreting cells in the blood of premature and term infants: normal development and effect of intrauterine infections. *Adv. Exp. Med. Biol.* 310:59.
11. Huber, A, N-A Le, **W Innis-Whitehouse**, WV Brown, L Harker, and S Ellis. (1992) Induction of MCP-1 and VCAM-1 expression and monocyte invasion in an in vitro model of the vessel wall by a postprandial serum factor. *Circulation* 86:I-333.
12. Sweeney,ME, N-A Le, X Li, **W Innis-Whitehouse**, L Davis, K Umeakunne, WD Hall, G Fletcher, and WV Brown. (1993) Effect of weight loss on LDL particle size and postprandial lipemia in obese subjects with CAD. *Circulation* 88:I-364.
13. Le, N-A, **W Innis-Whitehouse**, X Li, and WV Brown. (1994) Acute effect of cholesterol loading on the composition and metabolism of intestinal lipoproteins. Presented at the Xth International Symposium on Atherosclerosis, Montreal, Oct. 9-14, 1994.
14. **Innis-Whitehouse, W**, X Li, WV Brown, and N-A Le. (1994) In vitro redistribution of lipoprotein lipids: effect of postprandial lipemia. Presented at the Xth International Symposium on Atherosclerosis, Montreal, Oct. 9-14, 1994.
15. Li, X, **W Innis-Whitehouse**, WV Brown, and N-A Le. (1997) Simultaneous determination of Lp(a), LDL, and HDL particle sizes by segmental nondenaturing gradient gel electrophoresis. *J. Lipid Res.* 38:2603-2614.
16. **Innis-Whitehouse, W**, X Li, WV Brown, and N-A Le. (1997) An efficient chromatographic system for lipoprotein fractionation using whole plasma. *J. Lipid Res.* 39:679-690.
17. Le, N-A, **W Innis-Whitehouse**, X Li, R Bakker-Arkema, D Black, and WV Brown. (2000) Lipid and apolipoprotein levels and distribution in patients with hypertriglyceridemia: effect of atorvastatin. *Metabolism* 49:167-177.

18. Nusrat, A, CA Parkos, P Verkade, CS Foley, TW Liang, **W Innis-Whitehouse**, KK Eastburn, and JL Madara. (2000) Tight junctions are membrane microdomains. *J. Cell Sci.* 113:1171-1181.
19. Rentfro, AR, **Innis-Whitehouse W**, Pones RM, Nino J, Barroso C, and Fisher-Hoch S. Evidence against mass screening for acanthosis nigricans: relationships with insulin resistance, and waist circumference in Mexican American adolescents. Presented at the Fourth International Evidence-Based Nursing Preconference and 17th International Nursing Research Congress, 2006.
20. Rentfro AR, Nino JC, Pones RM, **Innis-Whitehouse W**, Barroso CS, Rahbar MH, et al. (2011) Adiposity, biological markers of disease, and insulin resistance in Mexican American adolescents, 2004-2005. *Prev. Chronic Dis.* 8(2):A40.
21. Chang, F-M, SM Reyna, JC Granados, S-J Wei, **W Innis-Whitehouse**, SK Maffi, E Rodriguez, TL Slaga, and JD Short. (2012) Inhibition of neddylation represses lipopolysaccharide-induced proinflammatory cytokine production in macrophage cells. *J. Biol. Chem.* 287(42):35756-35767.
22. Saca, JC, MP Reilly, **W Innis-Whitehouse**, JG Parsons, and RK Dearth. Exposure to Low-Level Arsenic (As) Suppresses Circulating IGF-1 Resulting in Delayed Female Pubertal Development. Abstract presented at The Endocrine Society Meeting, January, 2011.
23. Reilly, MP, JC Saca, A Hamilton, RF Solano, JR Rivera, **W Innis-Whitehouse**, JG Parsons, and RK Dearth. (2014) Prepubertal exposure to arsenic(III) suppresses circulating insulin-like growth factor-1 (IGF-1) delaying sexual maturation in female rats. *Reprod. Toxicol.* 44:41-49.
24. Gracia I, E Jones, M Ramos, **W Innis-Whitehouse**, and R Gilkerson. (2017) The little big genome: mitochondrial DNA maintenance and organization. *Frontiers in Bioscience, Landmark.* 22:710-721.
25. Jones, E, N Gaytan, I Garcia, A Herrera, M Ramos, D Agarwala, M Rana, **W Innis-Whitehouse**, E Schuenzel, and R Gilkerson. (2017) A threshold of transmembrane potential is required for mitochondrial dynamic balance mediated by DRP1 and OMA1. *Cell Mol Life Sci.* 74(7): 1347-1363.
26. **Innis-Whitehouse W**, X Wang, N Restrepo, C Salas, K Moreno, A Restrepo, and M Keniry. Kaposi sarcoma incidence in females is nearly four-fold higher in the Lower Rio Grande Valley compared to the Texas average. *Cancer Treatment and Research Communications.* 16, (January (1st Quarter/Winter) 2018): 45-52.
27. E Martinez, A Lopez, N Vazquez, V Fanniel, L Sanchez, R Marks, L Hinojosa, V Cuello, M Cuevas, A Rodriguez, C Tomson, A Salinas, M Abad, M Holguin, N Garza, A Arenas, K Abraham, L Maldonado, V Rojas, A Basdeo, E Schuenzel, R Dearth, M Persans, **W Innis-Whitehouse**, and M Keniry. FOXO Transcription Factors Promote Stem Signature in Aggressive U87MG Cells. Submitted.

Selected Recent Presentations

1. Eduardo Martinez, Victor Fanniel, Lilia Sanchez, Neftali Vazquez, Alma Lopez, Victoria Cuello, **Wendy Innis**, and Megan Keniry. "FOXO Transcription Factors Rewire Metabolism in U87MG Glioblastoma Cells," Experimental Biology 2018 Biochemistry and Molecular Biology, ASBMB/Biochemistry and Molecular Biology, San Diego (April 2018)
2. Robert Gilkerson, Edith Jones, Garcia Iraselia, Manuel Ramos, and **Wendy Innis**. "Interaction of mitochondrial fission/fusion dynamics and transmembrane potential in glycolytic versus oxidative cell settings.," Keystone Symposium on Mitochondria, Metabolism, and Heart, Keystone Symposia, Santa Fe, NM (May 2017)
3. Megan Keniry, Alma Lopez, Eduardo Martinez, Andrea Salinas, Itzel Flores, Victor Fanniel, Lilia Sanchez, Martin Holguin, Neftali Vazquez, Rebecca Marks, Jesse Hirschmann, Robert Gilkerson, and **Wendy Innis**. "FOXO3 Impacts SOX2 Expression," USDA P.I. Meeting , USDA, Albuquerque (February 2017)
4. Eduardo Martinez, Andrea Salinas, Itzel Flores, Victor Fanniel, Lilia Sanchez, Alma Lopez, Martin Holguin, Neftali Vazquez, Rebecca Marks, Jesse Hirschmann, Robert Gilkerson, **Wendy Innis**, and Megan Keniry. "Investigating Novel Roles for FOXO factors in pten-null Cancer Cells," American Society for Cell Biology Annual Meeting, ASCB, San Fransisco, CA (December 2016)
5. Rebecca Marks, Itzel Flores, Andrea Salinas, Eduardo Martinez, Neftali Vazquez, Victor Fanniel, Jesse Hirschmann, **Wendy Innis**, and Megan Keniry. "Mutation of FOXO4 leads to Cell Cycle defects in pten null U87MG cells," ABRCMS Annual Meeting, ABRCMS, Tampa Florida (November 2016)
6. Rebecca Marks, Itzel Flores, Andrea Salinas, Eduardo Martinez, Neftali Vazquez, Victor Fanniel, Jesse Hirschmann, **Wendy Innis**, and Megan Keniry. "Mutation of FOXO4 leads to Cell Cycle defects in pten null U87MG cells," SACNAS, Annual Conference, SACNAS, Long Beach, CA (October 2016)
7. Manuel Ramos, Edith Jones, Iraselia Garcia, **Wendy Innis**, and Robert Gilkerson. "Mitochondrial fission/fusion requires a strict threshold of transmembrane potential.," SACNAS National Diversity in STEM Conference, Long Beach, CA (October 2016)
8. Andrea Salinas, Itzel Flores, Eduardo Martinez, Victor Fanniel, Neftali Vazquez, Rebecca Marks, Jesse Hirschmann, Cristina Rodriguez, **Wendy Innis**, Robert Gilkerson, and Megan Keniry. "Investigating FOXO Feedback Mechanisms on the PI3K Pathway in Cancer," 2016 7th Annual PACE Bioethics, UTRGV, Edinburg, TX (April 2016)
9. Itzel Flores, Andrea Salinas, Eduardo Martinez, Victor Fanniel, Neftali Vazquez, Rebecca Marks, Jesse Hirschmann, Cristina Rodriguez, **Wendy Innis**, Robert Gilkerson, Megan Keniry, "Investigating Impact of FOXO3 on Mitochondrial

Function and Cell Cycle in Cancer," 2016 7th Annual PACE Bioethics, UTRGV, Edinburg, TX (April 2016)

10. Norma Gaytan, Edith Jones, **Wendy Innis**, and Robert Gilkerson. "Decreased mitochondrial transmembrane potential causes loss of mitochondrial fusion, even during inhibition of fission," Annual Biomedical Research Research Conference for Minority Students, San Antonio, TX (November 2014)