

BIOGRAPHICAL SKETCH

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NAME Virginia D. Winn, M.D., Ph.D.		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) WINN.V			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Trinity University, San Antonio, TX	BS	9/84-5/88	Biology
Lancaster University, Lancaster, England		9/85-5/86	
University of Rochester, Rochester, New York	MD	8/88-5/90	Medicine
		9/94-5/96	
University of Rochester, Rochester, New York	PhD	5/90-8/94	Biochemistry

A. Personal Statement

I am a physician-scientist who is a board certified Maternal-Fetal Medicine specialist with an extensive research background in biochemistry, molecular biology, prostaglandin regulation, trophoblast biology, gene expression profiling, preeclampsia and human placental development. My laboratory has extensive experience in placental processing and banking of tissue (basal plate, chorionic villi, chorionic plate, membranes and cord) as well as maternal and cord blood processing and banking. We currently have over 300 placentas banked for genomic, biochemistry and histologic analysis. I have been involved with translational research related to pregnancy for the past 11 years. I have extensive training in all aspects of clinical translational research and am the Co-Director of the Department of Obstetrics and Gynecology Pregnancy Research Core. Further, I am co-Director of the Child and Maternal Health component (CMH) of the NIH funded Colorado Clinical and Translational Sciences Institute (CCTSI). My role is to oversee and coordinate the labor and delivery components of clinical research as part of the CCTSI.

B. Positions and Honors

Professional Experience:

1996-2000 University of California, San Francisco, OB/GYN residency
2000-2003 University of California, San Francisco, Maternal-Fetal Medicine Fellowship
2003-2006 University of California, San Francisco, Department of Obstetrics, Gynecology and Reproductive Sciences, Assistant Adjunct Professor
2006-present University of Colorado Denver, Department of Obstetrics and Gynecology, Assistant Professor

Honors (selected):

1988 Biology Honors in Research, Trinity University
1988 Phi Beta Kappa
1988-1996 MSTP position University of Rochester
1995 Alpha Omega Alpha
1996 Doctor of Medicine with Honors
1996 The Dr. George C. Trombetta Award (Outstanding OB/GYN student)
1996 The Robert Kates Award (Outstanding student in both medicine and science)
1999 Teaching Excellence Award for Cherished House Staff (TEACH Award)
2000 Chief Resident Outstanding Teaching Award
2000 Ortho Excellence in Evidence Based Clinical Medicine Award
2001-2006 Reproductive Scientist Development Program Scholar
2004-2007 ABOG/AAOGF Scholar

Memberships:

1996-present American College of Obstetrics and Gynecologist

2003-present Society of Maternal-Fetal Medicine
2007-present Society of Gynecologic Investigation
2008-present Endocrinology Society

C. Selected Peer-reviewed Publications

Most Relevant to the Current Application

Winn, VD, J Sonson and RJ Filly (2003) Echogenic Intracardiac Focus: Potential for Misdiagnosis. *J. Ultrasound Med.* **22**:1207-1214. PMID: 14620892

Haimov-Kochman, R, SJ Fisher and **VD Winn**. (2006) Modification of the Standard Trizol-Based Technique Improves the Integrity of RNA Isolated from RNase-Rich Placental Tissue. *Clinical Chemistry* **52**(1):159-160. PMID: 16391340

Winn, VD, R Haimov-Kochman, AC Paquet, YJ Yang, MS Madhusudhan, M Gormley, V Feng, DA Bernlohr, S McDonagh, L Pereira, A Sali and SJ Fisher. (2007) Gene Expression Profiling of the Human Maternal-Fetal Interface Reveals Dramatic Changes Between Second Trimester and Term. *Endocrinology* **148**:1059-1079. PMID: 17170095

Winn VD, Gormley M, Paquet AC, Kjaer-Sorensen K, Kramer A, Rumer KK, Haimov-Kochman R, Yeh RF, Overgaard MT, Varki A, Oxvig C, Fisher SJ. (2009) Severe Preeclampsia-Related Changes in Gene Expression at the Maternal-Fetal Interface Include Siglec-6 and Pappalysin-2. *Endocrinology*. **150**(1):452-462. PMID: 18818296

Relevant to the field (in chronological order)

Espey, LL, N Tanaka, **V Winn** and H Okamura. (1989) Increase in Ovarian Kallikrein Activity During Ovulation in the Gonadotropin Primed Immature Rat. *J. Reprod. Fert.* **87**:503-508. PMID: 2600906

O'Banion, MK, HB Sadowski, **V Winn** and DA Young. (1991) A Serum- and Glucocorticoid-regulated 4-Kilobase mRNA Encodes a Cyclooxygenase-related Protein. *J. Biol. Chem.* **266**(34):23261-23267. PMID: 1744122

O'Banion, MK, **VD Winn** and DA Young. (1992) cDNA Cloning and Functional Activity of a Glucocorticoid-regulated Inflammatory Cyclooxygenase (griPGHS). *Proc. Natl. Acad. Sci USA* **89**:4888-4892. PMID: 1594589

Winn, VD, MK O'Banion and DA Young (1993) Anti-inflammatory Glucocorticoid Action: Inhibition of griPGHS, a New Cyclooxygenase. *J Lipid Mediat.* **6**:101-112. PMID: 8357976

Wang, W-S, Chao HJ, **Winn VD**, Rezanka LJ, Frobert Y, Evans CH, Sciaky D, Young DA and Smith TJ. (1996) Leukoregulin Induction of Prostaglandin-endoperoxide H synthase -2 in Human Orbital Fibroblasts: An *in vitro* Model for Connective Tissue Inflammation. *J. Biol. Chem.* **271**(37):22718-28. PMID: 8798446

Winn, VD and PL Sandberg (2002) Obstetrical Issues in Minimally Invasive Fetal Surgery. *Pediatric Endosurgery and Innovative Techniques* **6**(2):125-129.
www.liebertonline.com/doi/abs/10.1089/109264102760167341

Fisher, SJ, Y Zhou, L Huang and **VD Winn**. (2002) When is seeing believing? The use of color Doppler ultrasound to diagnose placenta accreta in the first trimester of pregnancy. *Ultrasound Obstet Gynecol* **19**:540-542. PMID: 12047530

Red-Horse, K, J. Rivera, A. Schanz, Y. Zhou, **V Winn**, M Kapidzic, E. Maltepe, K. Okazaki, R. Kochman, K Chi Vo L. Guidice, A. Erlebacher, JM Mc Cune. CA Stoddart and SJ Fisher (2006) Cytotrophoblast induction of arterial apoptosis and lymphangiogenesis in an *in vivo* model of human placentation. *J Clin Invest.* Oct;116(10):2643-52. PMID: 16998586

Petty, AP, KL Garman, **VD Winn**, CM Spidel, and JS Lindsey. (2007) Overexpression of carcinoma and cytotrophoblast cell-specific Mig-7 induces invasion and vessel-like structure formation. *Am J Pathol.* **170**(5):1763-80. PMID: 17456780

Arroya, J and **VD Winn** (2008) Vasculogenesis and Angiogenesis in the IUGR Placenta. *Semin Perinatol.* Jun;32(3):172-7. PMID: 18482617

Metz, T, M Trierweiler, A-M Arrigo and **VD Winn** (2009) Uterine Torsion Delayed Diagnosis of Abnormal Anterior Placentation. *J of Reprod. Med.* 54(5);322-4. PMID: 19517699

D. Research Support

Ongoing Research Support

R01 HD60723-01 (WINN)

2/01/2010 – 1/31/2015

National Institutes of Health/NICHD

Functional Significance of Siglec-6, a novel leptin receptor, in human placental development and preeclampsia. The major goals of this project are to determine the impact of leptin and its receptors including the novel receptor Siglec-6 on cytotrophoblast invasion. Specifically, we will determine the mechanism by which Siglec-6 abrogates the action of leptin on human cytotrophoblast differentiation and invasion.

Role: PI

CCTSI Co-Pilot Award (WINN)

3/1/2010 – 2/28/2011

University of Colorado/Colorado Clinical Translational Science Institute

PAPP-A2 as a Potential Preeclampsia Biomarker

The major goal of this project is to determine the potential utility of PAPP-A2 as either a diagnostic or predictive biomarker for preeclampsia.

Role: PI, Co-Investigators: Lorraine Dugoff, MD, Anne Lynch, MD

R01 DK078645-01 (BARBOUR)

2/1/2010 – 1/31/2015

National Institutes of Health/NIDDK

Regulation of Maternal Fuel Supply and Neonatal Adiposity

The major goal of this project is to determine how and which the fuels utilized during pregnancy result in the generation of a infant excess adiposity.

Role: Co-I

1RC1HD063508-01. (GELFAND)

10/01/2009 – 9/30/2011

National Institutes of Health/NHLBI

Antenatal Dietary Supplementation is a Risk Factor for Infant Atopy Through Epigenetics

The major goal of this project is to evaluate the levels of methyl donors in pregnant women and determine if levels correspond to changes in DNA methylation status and atopic disease development in the infants.

Role: Collaborator

Completed Research Support (last 3 years)

2008 Basil O'Conner Award (WINN)

2/1/2008 - 1/31/2010

March of Dimes Foundation

Functional Significance of Siglec-6, a Novel Preeclampsia-Associated Gene, on Cytotrophoblast Differentiation and Invasion.

The major goals of this project are to characterize the expression pattern of Siglec-6 in human placenta over gestation and in preeclampsia and determine the effect of leptin treatment and Siglec-6 expression on human trophoblast differentiation and invasion.

Role: PI

5 K12 HD001271-09 (GIBBS)

7/30/1999 – 3/31/2010

Women's Reproductive Health Research (WRHR) Career Development Program Award

National Institutes of Health/NICHD

Human Placental Development

This is a scholar career development program that provides protected research time for the scholar as well as some funding for studies of human trophoblast maturation.

Role: Scholar (8/1/2006 – 6/31/10)