



Ramkumar Menon, PhD

Associate Professor
Department of Obstetrics and Gynecology
OB/GYN Perinatal Research

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Specialty

Obstetrics and Gynecology, Perinatal Reproductive Biology

Employment

Associate Professor, Dept of Obstetrics and Gynecology; The University of Texas Medical Branch at Galveston, Galveston, TX; 2017 – Present (Tenured)
Assistant Professor, Dept of Obstetrics and Gynecology; The University of Texas Medical Branch at Galveston, Galveston, TX; 2011 – 2017 (Tenure track)
Research Associate Professor, Emory University, Atlanta, GA, Dept of Epidemiology; 2009-2011(Research Track)
Research Director – The Perinatal Research center, Centennial Women's Hospital, Nashville, TN; 1995 - 2011

Medical/Graduate School

- Medical Laboratory Science, Medical College Trivandrum, University of Kerala, India, 1988
- Medical Laboratory Science, University of Utah, Salt Lake City, 1990
- Reproductive Immunology and Microbiology, Wright State University, Dayton, OH 1993 – MS
- Perinatal Genetic Epidemiology, Aarhus University, Aarhus, Denmark, 2007 – PhD

Research Interests

- Molecular pathways of spontaneous preterm birth and preterm premature rupture of the membranes in response to infectious and behavioral risk factors.
- Identification of preterm birth biomarkers through systems biology approach. Genomic, proteomic and Metabolomic investigation of source.
- Exosome functions in pregnancy and parturition and its role as a paracrine signaler in parturition
- Molecular mechanisms of Epithelial-Mesenchymal Transition (EMT) and Mesenchymal Epithelial Transition (MET) in human fetal membrane cells.
- Development of transgenic mouse models to study exosome trafficking
- Development of organ on chip for fetal membrane studies

National & International Organization

- American Association of Advancement of Science
- Preterm Birth International Collaborative
- Society for Reproductive Investigation
- Consultant – Reproductive Health Research - World Health Organization 2006 -2014

Honors

2016-Present

1. Board of Directors - Preterm Birth International Collaborative (PREBIC) – 2006 - Present
2. Past President - Preterm Birth International Collaborative (PREBIC) – 2011-2014
3. Keynote speaker – Resident Research Day, Ochsner Hospital, New Orleans, LA, May 19, 2017.
4. Travel award – Samantha Sheller-Miller (4th yr graduate student; Mentor – Menon R), SRI, San Diego, 2018
5. Best poster presentation award for Lauren Richardson (2nd yr graduate student; Mentor – Menon R), Texas Forum for Reproductive Science, Houston, TX, April 27, 2017.
6. Best platform presentation award for Samantha Sheller-Miller (4th yr graduate student; Mentor – Menon R), Texas Forum for Reproductive Science, Houston, TX, April 27, 2017
7. Pfizer young scientist award for Emily Hadley, MD (MFM Fellow; Mentor – Menon R) abstract entitled “Effect of Amnion Epithelial Cell Derived Exosomes on Feto-Maternal Gestational Cells” . Society for Reproductive investigation, Orlando, FL, March 18, 2017
8. Best presentation award, Caroline C Marrs, MD (MFM Fellow; Mentor – R Menon) Abstract entitled “Maternal gene variants in human telomerase reverse transcriptase are associated with preterm labor and preterm premature rupture of membranes” Society for Maternal-Fetal Medicine Annual Meeting, Las Vegas, NV, January 26, 2017.
9. Travel award – American Society for Reproductive Immunology for Samantha Sheller (Mentor – Menon R), Baltimore, MD, November 2017
10. Invited Speaker – Cell Fate Diversity in Aging; Zing Conferences 2016. Dubrovnik, Croatia, Cavtat September 26, 2016.
11. New Scientist Magazine Report – “Placenta’s alarm clock signals when it’s time for birth to begin”. <https://www.newscientist.com/article/2105521-placentas-alarm-clock-signals-when-its-time-for-birth-to-begin/>

Grants

Hologic, Inc.	Menon (PI)	11/2017 - 03/2019
AMAG Pharmaceuticals	Menon (PI)	11/2016 –12/2018
Bill and Melinda Gates Foundation	Menon (PI)	11/2016 – 08/2018
1R01HD084532-01A1	Menon (PI)	06/2016 – 05/2021
1R03HD086354-01	Menon (PI)	04/2016 – 12/2018
March of Dimes, Ohio Center	Menon (PI)	12/2015-09/2018
NIH R01 Aagaard KM (PI)	Menon (co-I)	09/2013 – 06/2018

Selected Publications in Pub Med (2017):

1. Richardson L, Vargas G, Brown T, Ochoa L, Trivedi J, Saade GR, Kacerovský M, Lappas M, **Menon R**. Redefining 3D Fetal Membrane Microarchitecture using 1 Multiphoton Microscopic Approaches and Optical Clearing. **Placenta**. 2017 May;53:66-75.
2. Truong G, Guanzon D, Kinhal V, Elfeky O, Lai A, Longo S, Nuzhat Z, Palma C, Scholz-Romero K, **Menon R**, Mol BW, Rice GE, Salomon C. Oxygen tension regulates the miRNA profile and bioactivity of

- exosomes released from extravillous trophoblast cells - Liquid biopsies for monitoring complications of pregnancy. **PLoS One**. 2017 28;12:e0174514.
3. **Menon R**. Uterine tissue aging and adverse reproductive outcomes: New concepts, mechanisms, and markers. **Am J Reprod Immunol**. 2017;77(5).
 4. Mohamed SA, El Andaloussi A, Al-Hendy A, **Menon R**, Behnia F, Schulkin J, Power ML. Vitamin D and corticotropin-releasing hormone in term and preterm birth: potential contributions to preterm labor and birth outcome. **J Matern Fetal Neonatal Med**. 2017 Aug 7:1-7. PMID: 28780891
 5. Bhavnani SK, Dang B, Kilaru V, Caro M, Visweswaran S, Saade G, Smith AK, **Menon R**. Methylation differences reveal heterogeneity in preterm pathophysiology: results from bipartite network analyses. **J Perinat Med**. 2017 Jun 30. PMID: 28665803
 6. Stalberg C, Noda N, Poletini J, Jacobson B, **Menon R**. Pigment epithelial-derived factor in human fetal membranes. **J Matern Fetal Neonatal Med**. 2017 Jun 20:1-8.
 7. Sheller-Miller S, Urrabaz-Garza R, Saade G, **Menon R**. Damage-Associated molecular pattern markers HMGB1 and cell-free fetal telomere fragments in oxidative-stressed amnion epithelial cell-derived exosomes. **J Reprod Immunol**. 2017 Aug 24;123:3-11. PMID: 28858636
 8. Chen J, Liang Y, Yi P, Xu L, Hal HK, Shannan RL, Lynn S, Cai J, Menon R, Sun J. Outcomes of congenital Zika disease depend on timing of infection and maternal-fetal interferon action. *Cell Rep*. 2017 Nov 7;21(6):1588-1599. PMID: 29117563
 9. Richardson LS, Vargas G, Brown T, Ochoa L, Sheller-Miller S, Saade GR, Taylor RN, **Menon R**. Discovery and Characterization of Human Amniochorionic Membrane Microfractures. **Am J Pathol**. 2017 Sep 19. PMID: 28939208.
 10. Hadley EE, Richardson LS, Torloni MR, **Menon R**. Gestational Tissue Inflammatory Biomarkers at Term Labor: A Systematic Review of Literature. **Am J Reprod Immunol**. 2017 Oct 27. PMID: 29076197
 11. Dixon CL, Richardson L, Sheller-Miller S, Saade G, **Menon R**. A distinct mechanism of senescence activation in amnion epithelial cells by infection, inflammation, and oxidative stress. **Am J Reprod Immunol**. 2017 Nov 30; PMID: 29193446.
 12. Martin LF, Moço NP, de Lima MD, Poletini J, Miot HA, Corrêa CR, **Menon R**, da Silva MG.
 13. Histologic chorioamnionitis does not modulate the oxidative stress and antioxidant status in pregnancies complicated by spontaneous preterm delivery. **BMC Pregnancy Childbirth**. 2017 Nov 13;17(1):376. PMID: 29132320
 14. Carvalho NS, Moron AF, **Menon R**, Cavaleiro S, Barbosa MM, Milani HJ, Ishigai MM. Histological evidence of reparative activity in chorioamniotic membrane following open fetal surgery for myelomeningocele. **Exp Ther Med**. 2017 Oct;14(4):3732-3736. PMID: 29042971.
 15. Lai A, Kinhal V, Nuzhat Z, **Menon R**, Rice GE, Salomon C. Proteomics Method to Identification of Protein Profiles in Exosomes. **Methods Mol Biol**. 2018;1710:139-153.

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