

BIOGRAPHICAL SKETCH

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NAME: **Antony, Kathleen Marie**

eRA COMMONS USER NAME (credential, e.g., agency login): **kantony**

POSITION TITLE: **Clinical Assistant Professor of Maternal-Fetal Medicine**

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Washington University, St. Louis, Missouri	A.B.	05/2004	Chemistry and Biology
University of Rochester School of Medicine, Rochester, New York	M.D.	05/2008	Medicine
Baylor College of Medicine, Houston, Texas	Residency	07/2012	Obstetrics & Gynecology
Baylor College of Medicine, Houston, Texas	Fellowship	07/2015	Maternal-Fetal Medicine
Baylor College of Medicine, Houston, Texas	M.S.	07/2015	Clinical Investigation

A. Personal Statement

My research interests thus far have included the microbiome of pregnancy, infectious disease, and global maternal-fetal health. I am eager to collaborate on this project because it merges my interest in global maternal-fetal health and infection with a current global health emergency. I have honed my expertise in placental infection and colonization by contributing to the extensive microbiome work of my prior research mentor, Dr. Kjersti Aagaard. During my fellowship, I had the opportunity to contribute to her investigation of the microbiome of the human placenta, and this groundwork allowed me to then query the association between a pregnancy exposure (gestational weight gain) and the microbiome of the human placenta. I have now completed my Maternal-Fetal Medicine fellowship and have started a faculty position at the University of Wisconsin-Madison, and I am ready to collaborate on Dr. Golos' investigation of Zika infection in pregnant macaques, which is of great personal and global interest.

My role in this project will involve interpretation of the fetal ultrasounds of infected macaques and performance of amniocenteses and chorionic villus sampling to evaluate the status of viral replication and proliferation in the placental and amniotic spaces. I will also assist with intra-amniotic inoculation of the Zika virus.

B. Positions and Honors**Positions and Employment**

2008-2012 Resident Physician, Obstetrics and Gynecology, Baylor College of Medicine, Houston, TX
2012-2015 Clinical Fellow, Maternal-Fetal Medicine, Baylor College of Medicine, Houston, TX
2015- Clinical Assistant Professor, Maternal-Fetal Medicine, University of Wisconsin School of Medicine and Public Health, Madison, WI

Other Experience and Professional Memberships

2004- Member, Sigma Xi (Chemistry Honor Society), Washington University, St. Louis, MO
2004- Member, Phi Beta Kappa, Washington University, St. Louis, MO
2008- Member, American Congress of Obstetricians and Gynecologists
2012- Member, Society of Maternal-Fetal Medicine

Honors

2003	Howard Hughes Summer Research Fellowship, St. Louis, MO
2004-2008	Dean's Scholarship, University of Rochester School of Medicine and Dentistry, Rochester, NY
2011	Arthur M. Faris Sr., M.D. Resident Research Day, 3 rd place presentation, Houston, TX
2013	American Academy of Pediatrics, 82 nd Perinatal and Developmental Medicine Symposium, Travel Award, Aspen, CO

C. Contribution to Science

1. Sleep Apnea:

As a resident physician, I was interested in obesity in pregnancy and focused my efforts on exploring both the prevalence of obstructive sleep apnea in pregnancy and pregnancy outcomes associated with obstructive sleep apnea. I was able to recruit 1600 participants in a prospective observational study wherein pregnant women completed two obstructive sleep apnea questionnaires. If they screened positive on either questionnaire, they were referred for a polysomnogram and treated, if necessary. Pregnancy outcomes were recorded and reported.

- Olivarez SA, Ferres M, **Antony K**, Mattewal A, Maheshwari B, Sangi-Haghpeykar, Aagaard Tillery K. "Obstructive Sleep Apnea Screening in Pregnancy, Perinatal Outcomes, and Impact of Maternal Obesity." *American Journal of Perinatology*. 2011 Sep;28(8):651-8. Epub 2011 April 8. Cited in PubMed; PMID: 21480159.
- Antony KM**, Agrawal A, Arndt M, Murphy A, Alapat P, Guntupalli K, Aagaard K. "Association of Adverse Perinatal Outcomes with Screening Measures of Obstructive Sleep Apnea." *Journal of Perinatology*. 2014. Epub ahead of print 2014 Mar 6:1-8. Cited in PubMed; PMID 24603455.
- Antony KM**, Agrawal A, Arndt M, Murphy A, Alapat P, Guntupalli K, Aagaard K. "Obstructive Sleep Apnea in Pregnancy: Reliability of Prevalence and Prediction Estimates." *Journal of Perinatology*. 2014. Epub ahead of print 2014 Mar 27:1-7. Cited in PubMed; PMID: 24674980.

2. Microbiome:

As a clinical fellow, I was interested in the microbiome, but maintained my interest in obesity and gestational weight gain. I was fortunate to be mentored by Dr. Kjersti Aagaard and work in her laboratory, which focuses on the microbiome in pregnancy. Under her guidance, I honed my expertise investigating the microbiome by contributing to her investigation of the microbiome in the human placenta. This groundwork allowed me to query the association between obesity and excess gestational weight gain and the microbiome and metabolome of the placenta, and we found that the preterm placental microbiome varied in association with excess gestational weight gain.

- Prince A, **Antony KM**, Aagaard KM. "The Microbiome and Development: A Mother's Perspective." *Seminars in Reproduction*. 2014 Jan;32(1):14-22. doi: 10.1055/s-0033-1361818. Epub 2014 Jan 3. Cited in PubMed; PMID: 24390916.
- Aagaard K, Ma J, **Antony K**, Anders A, Ganu R, Petrosino J, Versalovic J. "The Placenta Harbors a Unique Microbiome." *Science Translational Medicine*. 2014 May 21;6(237)237ra65. PMID: 24848255.
- Prince AL, **Antony KM**, Chu DM, Aagaard KM. "The Microbiome, Parturition, and Timing of Birth: More questions than answers." *Journal of Reproductive Immunology*. 2014 Oct; 104-105:12-9. Epub Apr 18. PMID: 24793619
- Antony KM**, Ma J, Mitchell KB, Racusin DA, Versalovic J, Aagaard K. "The Preterm Placental Microbiome Varies in Association with Excess Maternal Gestational Weight Gain." *American Journal of Obstetrics and Gynecology*. 2014 Dec 31. [Epub ahead of print]. PMID: 25557210

3. Maternal-Fetal Medicine (gestational diabetes, thromboelastography, postpartum hemorrhage, spina bifida):

As a clinical fellow, I also reviewed the management of a common obstetric complication (postpartum hemorrhage) and sought to describe reference ranges for a newer point of care test that we started using on labor and delivery. I also supported the work of my colleagues by assisting with statistical planning, biostatics calculations, study design, and recruitment.

- a. **Antony KM**, Dildy GA III. "Postpartum Hemorrhage: The Role of the Maternal-Fetal Medicine Specialist in Enhancing Quality and Patient Safety." *Seminars in Perinatology*. 2013 Aug;37(4):246-256. Cited in PubMed; PMID: 23916023.
- b. Racusin DA, **Antony KM**, Showalter LA, Sharma S, Haymond MW, Aagaard KM. "Candy twists as an alternative to the glucola beverage in gestational diabetes screening." *American Journal of Obstetrics & Gynecology*. 2014 Nov 13. [Epub ahead of print]. PMID: 25446695.
- c. **Antony KM**, Mansouri R, Arndt M, Hui SR, Jariwala P, Moreland McMullen V, Teruya J, Aagaard KM. "Establishing Thromboelastography with Platelet-Function Analyzer Reference Ranges and Other Measures in Healthy Term Pregnant Women." *American Journal of Perinatology*. 2015 Jan 16. [Epub ahead of print]. PMID: 25594216.
- d. Racusin DA, Villarreal S, **Antony KM**, Harris RA, Mastrobattista J, Wesley L, Shamshirsaz A, Belfort M, Aagaard KM. "The Role of MSAFP and Ultrasonography in Contemporary Detection of Spina Bifida." *American Journal of Perinatology*; accepted July 2015.

Complete List of Published Work in MyBibliography:

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Antony%20KM\[auth\]](http://www.ncbi.nlm.nih.gov/pubmed/?term=Antony%20KM[auth])

D. Research Support

Ongoing Research Support

NONE

Completed Research Support

Department-sponsored Resident Research Grant K. Aagaard (PI) 2011-2012
 Obstructive Sleep Apnea Screening in Pregnancy: Prevalence and Perinatal Outcomes
 To determine the predictive value of screening tools for sleep apnea in pregnancy, and to establish the prevalence of the disorder and associated perinatal outcomes.
 Role: Co-Investigator

Fellowship-sponsored research K. Aagaard (PI) 2011-2012
 Excess Gestational Weight Gain and Associations with the Placental Microbiome
 To determine whether excess gestational weight gain is associated with alterations in the placental microbiome and metabolome.
 Role: Co-Investigator