

# The Obstetrics, Gynecology and Reproductive Biology Review

Michigan State University College of Human Medicine

Volume 1, ISSUE 2 — July 2015



Grand Rapids Research Center groundbreaking ceremony. June 18, 2015

## Message from the Chair



2015 has been a very exciting time for the department. Our Block III medical students continue to perform well above the national median on the NBME Obstetric and Gynecology Shelf Exam. Further, 17 of our fourth year students matched in ACGME Obstetric and Gynecology residencies across the country evenly distributed between university and community programs. Fifteen residents graduated from the MSU CHM Affiliated Obstetric and Gynecology Residency Network located in Grand Rapids, East Lansing and Flint and we wish them success in their career advancement. We welcome Ron Chandler, PhD who will be joining us from the Department of Cell Biology at the University of North Carolina, August 16th in Grand Rapids. Our clinical practice is growing with the addition of Dr. Rajan who joined us in May. I congratulate the faculty

and staff for a terrific year so far and we look forward to continued progress and accomplishment.

*Richard M. Leach, M.D., FACOG, FACS*

*Professor and Chair*

*Department of Obstetrics, Gynecology and Reproductive Biology*

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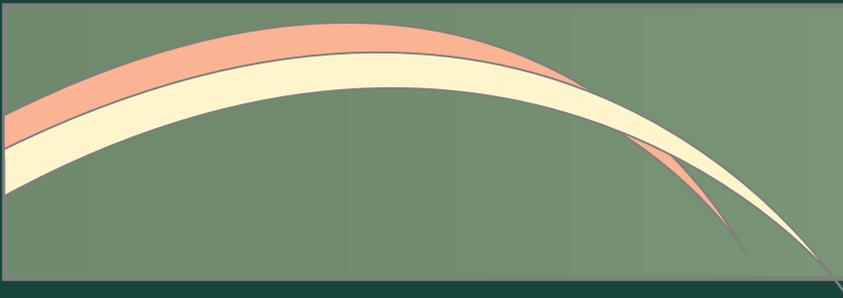
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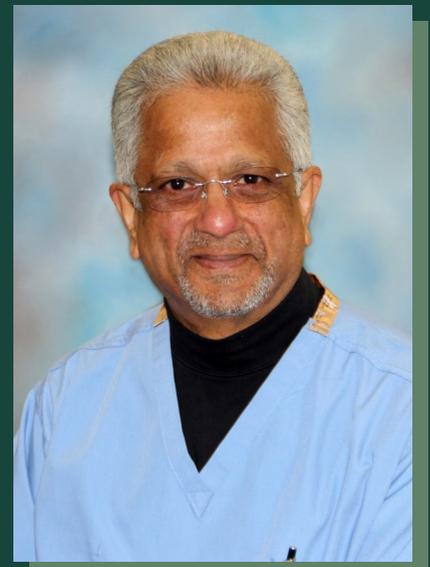
Dr. Anita Avery, who joined the team as a provider with the MSU Health Team in July 2014, was elected in April to chair the Health Care Delivery Committee. She was also re-elected to the Michigan State Medical Society Board for a second term. Please join us in congratulating Dr. Avery for representing the Department of OB/GYN so well!



## Clinical Faculty Spotlight

Jairam Rajan, MD  
Assistant Professor

We are pleased to announce the newest addition to our clinical team! Dr. Rajan joined us in May 2015 and is currently Assistant Professor in the Department of Obstetrics, Gynecology and Reproductive Biology in the College of Human Medicine at Michigan State University. Dr. Rajan has been a practicing Obstetrician -- Gynecologist for 30 years. His work involves all areas of women's health, including obstetrics, gynecology and infertility. Dr. Rajan uses patient-centered care to help improve patient health and quality of life. Dr. Rajan began seeing patients in May.



# Research News



The university leadership team breaks ground at the location of the new research facility.

June 18, 2015 marked an historic day for the state of Michigan, MSU, and the Grand Rapids community as ground was broken to prepare for the construction of the new biomedical research facility which will be the future home of the OB/GYN research team. President Lou Anna Simon, College of Human Medicine Dean Marsha Rappley, Provost June Pierce Youatt, and Alyssa Fedorko, MD/PhD student in the lab of Dr. John Risinger, were invited to speak about the importance of the new facility to

an enthusiastic crowd of community members, faculty, staff, and CHM students. The six-story, \$88 million dollar facility will house up to 44 research teams and will be completed in 2017.



MD/PhD student, Alyssa Fedorko, addresses the audience.



OB/Gyn Administrative Assistant, Amanda Sterling, poses with Sparty during the groundbreaking ceremony.

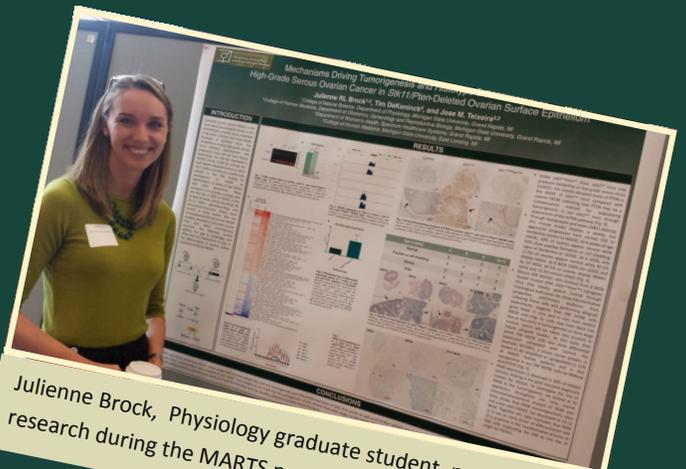
## More Research News

In May, the Department of OB/GYN and Reproductive Biology hosted the 2015 meeting for the **Michigan Alliance for Reproductive Technologies and Science (MARTS)** at the College of Human Medicine Secchia Center in Grand Rapids. Keynote speaker Dr. Bruce Murphy, from the University of Montreal, presented his research on the orphan nuclear receptor, liver receptor homolog-1. The **MARTS** forum highlights the exemplary basic, translational, and clinical re-

search programs throughout the state of Michigan and is comprised of researchers, clinicians, and educators from the state and neighboring regions .



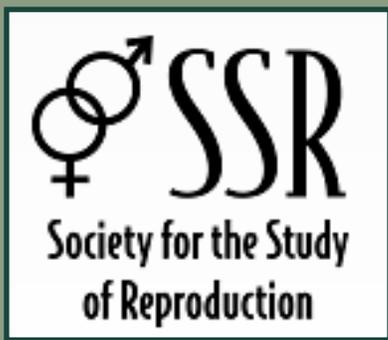
Conference attendees listen to an oral presentation — Secchia Center



Julienn Brock, Physiology graduate student, presents her research during the MARTS poster session.

## Society for the Study of Reproduction

The OB/GYN research team is gearing up for the annual meeting of the Society for the Study of Reproduction in San Juan, Puerto Rico that will be held from June 18 — June 22. Michael Strug, DO/PhD candidate and mentee of Dr. Asgi Fazleabas, has received a Larry Ewing travel grant to present his poster: *Postpartum uterine repair is mediated by the Notch family transcription factor, RBP-Jk, in the mouse*. The following team members will also be presenting:



- ◆ Niraj Joshi, postdoctoral fellow in the Fazleabas lab: *Increased expression of microRNA -29c (miR-29c) decreases the expression of Decorin which is associated with progesterone (P) resistance in baboons and women with endometriosis.*
- ◆ Ren-Wei Su, postdoctoral fellow in the Fazleabas lab: *“Continuously activated Notch signaling inhibits progesterone receptor expression via hyper-methylation of its promoter.”*
- ◆ Sharra Poncil, lab technician for Dr. Karen Racicot: *“Cervical viral infections as a potential cause of preterm labor.”*
- ◆ Jitu George, postdoctoral fellow in the lab of Dr. Jose Teixeira: *Specific deletion of LKB1/Stk11 in the Müllerian duct mesenchyme drives hyperplasia of the prostatic stroma and tumorigenesis*

- ◆ Julienn Brock, physiology graduate student in the Teixeira lab: *Mechanisms Driving Tumorigenesis and Histotype Differentiation of High-Grade Serous Ovarian Cancer in Stk11/Pten-Deleted Mouse Ovarian Surface Epithelium*
- ◆ Amanda Patterson, postdoctoral fellow in the Teixeira lab: *Over-activation of stromal beta-catenin results in sub-fertility due in part to decidualization defects.*
- ◆ Y. Sangeeta Devi, Assistant Professor: *Significance of the association of PRAP/HSD17B-7 with the intracellular domain of PRL-RS in estradiol production by the corpus luteum.*

## Featured Staff Member

### Arianna Smith, Ph.D. Postdoctoral Research Fellow

Arianna joined the lab of Dr. Karen Racicot, Principal Investigator with the OB/GYN research team based in Grand Rapids, in June. She earned a Ph.D. in Genetics from Michigan State University in 2014 — title of her dissertation: *Determining the role of Interferon Regulatory Factor 6 in oogenesis and extra-*



*embryonic development* — and a B.S. in Biological Sciences from North Carolina State University in 2008. As a postdoctoral fellow, Arianna will be responsible for designing and conducting research experiments in the area

of pregnancy and fetal origins of disease, mentoring students, assisting with manuscripts and grant proposals, and presenting research at local and national meetings. Please give a warm welcome to Arianna!



**For The Love of a Woman Discovery Fund** supports new discoveries in gynecological cancer, reproductive health and maternal infant health. **To contribute** go to: **[www.obgyn.msu.edu](http://www.obgyn.msu.edu)**. For more information please contact the Advancement Office at 1-855-678-7444.

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### PUBLICATIONS

- ◆ Ahn JI, **Yoo JY**, **Kim TH**, Kim YI, Ferguson SD, **Fazleabas AT**, Young SL, Lessey BA, Ahn JY, Lim JM, and **Jeong JW** (2015) cAMP-Response Element-Binding 3-like protein 1 (CREB3L1) is required for decidualization and its expression is decreased in women with endometriosis. Accepted *Current Molecular Medicine*.
- ◆ Choi HK, Choi Y, Park ES, Park SY, **Jeong JW**, Jeong JH, Jeong MH, Lee PCW, Choi KC, and Yoona HG (2015) Programmed cell death 5 (PDCD5) mediates HDAC3 decay to promote genotoxic stress response. Accepted *Nature Communications*.
- ◆ **Devi YS**, DeVine M, DeKuiper J, Ferguson S and **Fazleabas AT** (2015). Inhibition of the IL-6 Signaling Pathway by Curcumin in Uterine Decidual Cells. *Plos One* May 11;10(5):e0125627. PMID:25961579
- ◆ Hood BL, Liu B, Alkhas A, **Shoji Y**, **Challa R**, Wang G, Ferguson S, Oliver J, Mitchell D, Bateman NW, Zahn CM, Hamilton CA, Payson M, Lessey B, **Fazleabas AT**, Maxwell GL, Conrads TP, **Risinger JI**. Proteomics of the Human Endometrial Glandular Epithelium and Stroma from the Proliferative and Secretory Phases of the Menstrual Cycle. *Biol Reprod*, 92(4):106, 2015
- ◆ **Kim BG**, **Yoo JY**, **Kim TH**, Shin JH, Langenheim JF, Ferguson SD, **Fazleabas AT**, Young SL, Lessey BA and **Jeong JW** (2015). Aberrant Activation of Signal Transducer and Activator of Transcription-3 (STAT3) Signaling in Endometriosis. *Human Reproduction* . 30: 1069-1078. PMID: 25750101
- ◆ Maxwell GL, **Shoji Y**, Darcy K, Litzi T, Berchuck A, Hamilton CA, Conrads TP, **Risinger JI**. MicroRNAs in endometrial cancers from black and white patients. *Am J Obstet Gynecol*, 212(2):191.e1-191.e10, 2015.
- ◆ **Meghea CI**, You Z, **Raffo JE**, and **Roman LA** (2015). Home Visiting and Infant Mortality: Evidence from Medicaid's Enhanced Prenatal and Postnatal Program in Michigan. 2015. *Pediatrics*. DOI 10.1007/s10995-015-1724-z
- ◆ **Meghea CI**, Brinzaniuc A, Mihiu D, Iuhac CI, Stamatian F, Caracostea G, Sidor A, Alexa PM, Branza C, Pop OM, and Chereches RM (2015). A Couples Intervention to Prevent Postnatal Smoking Relapse: PRISM study design. *Contemporary Clinical Trials*. 2015. DOI: 10.1016/j.cct.2015.02.002
- ◆ **Meghea CI**, You Z, and **Roman LA** (2015). A Statewide Medicaid Enhanced Prenatal and Postnatal Care Program and Infant Injuries. *Maternal and Child Health Journal*. 2015. DOI 10.1007/s10995-015-1724-z
- ◆ **Meghea CI** and Corser W (2015). Health Service Use and Expenditure Patterns of Dual Eligibles in Michigan. *Michigan Journal of Public Health*. 2015. In Print.
- ◆ **Meghea CI** and **Williams KP** (2015). Aligning Cost Assessment with Community-Based Participatory Research: The Kin KeeperSM Intervention. *Health Education & Behavior*. 2015 Apr;42(2):148-52. doi: 10.1177/1090198114557126.



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Michigan State University College of Human Medicine

### **PUBLICATIONS cont.**

- ◆ PrabhuDas M, Bonney E, Caron K, Dey SK, Erlebacher A, **Fazleabas AT**, Fisher S, Golos T, Matzuk M, McCune JM, Mor G, Schulz L, Soares M, Spencer T, Strominger J, Way SS and Yoshinaga K (2015). Immune Mechanisms at the Maternal-Fetal Interface: Perspectives and Challenges. *Nature Immunology*. 16: 328–334 (Commentary). PMID:25789673
- ◆ Ruiz LA, Báez-Vega PM, Bracero N, Ruiz A, Beauchamp P, Peterse D, **Fazleabas AT** and Flores I (2015). Dysregulation in Lysyl Oxidase Expression in Endometriosis and Endometrium of Women with Endometriosis-Associated Infertility. *Reproductive Science – E-Pub* May 11, 2015. PMID: 25963914
- ◆ **Su RW, Strug MR, Joshi NR, Jeong JW**, Miele L, Lessey BA, Young SL, and **Fazleabas AT** (2015). Decreased Notch pathway signaling in the endometrium of women with endometriosis impairs decidualization. *The Journal of Clinical Endocrinology & Metabolism* 2015 Mar;100(3):E433-42 PMID: 25546156.
- ◆ **Teixeira JM**, Commandeur A, and Styler A. (2015). Epidemiological and genetic clues for molecular mechanisms involved in uterine leiomyoma development and growth. *Human Reproduction Update*. In Press.
- ◆ **Williams KP, Ford S, and Meghea CI** (2015). Cultural Connections: the Key to Retention of Black, Latina, and Arab Women in the KinKeeperSM Cancer Prevention Intervention Studies. 2015. *Journal of Cancer Education*. DOI 10.1007/s13187-015-0857-5.
- ◆ **Yoo JY, Kim TH**, Lee JH, Dunwoodie SL, Ku BJ and **Jeong JW** (2015) Mig-6 regulates endometrial genes involved in cell cycle and progesterone signaling. Accepted *Biochem Biophys Res Commun*.
- ◆ **Yoo JY, Kim TH**, Kong S, Lee JH, Choi W, Kim KS, Kim HJ, Jeong JW, and Ku BJ (2015). The role of Mig-6 in hepatic glucose metabolism. *J Diabetes*. [Epub ahead of print]. PMID: 25594850
- ◆ Zambrana R, **Meghea CI**, Talley C, Hammad A, Lockett M, and **Williams KP** (2015). Association between Family Communication and Cancer Health Literacy among Underserved Racial Ethnic Women. *Journal of Health Care for Poor and Underserved*. 2015. 26(2):391-405

### **PRESENTATIONS**

- ◆ **Brock JR. Poster**. “Mechanisms Driving Tumorigenesis and Histotype Differentiation of High-Grade Serous Ovarian Cancer in Stk11/Pten-Deleted Mouse Ovarian Surface Epithelium.” San Juan, Puerto Rico. June 2015.
- ◆ **Devi YS. Poster**. “Professor: Significance of the association of PRAP/HSD17B-7 with the intracellular domain of PRL-RS in estradiol production by the corpus luteum.” San Juan, Puerto Rico. June 2015.
- ◆ **Fazleabas AT**. Invited Speaker, Endometriosis Foundation of America, 6th Annual Conference, New York, NY. Apr 2015.
- ◆ **Fazleabas AT**. Keynote Speaker, “Female Reproductive Endocrine Disorders”, 7th Annual Rocky Mountain Reproductive Sciences Symposium, Fort Collins, CO. May 2015.
- ◆ **Fazleabas AT**. Keynote Speaker, 3rd International Symposium on Reproductive Genetics, Shenzhen Guangdong, China. May 2015.
- ◆ **Fazleabas AT**. Invited Speaker, University of Puerto Rico “Infertility – Cause and Consequence” San Juan, Puerto Rico. June 2015.

### ***PRESENTATIONS cont.***

- ◆ **George JW.** Poster. "Specific deletion of LKB1/Stk11 in the Müllerian duct mesenchyme drives hyperplasia of the prostatic stroma and tumorigenesis." San Juan, Puerto Rico. June 2015.
- ◆ **Joshi N.** Poster. "Increased expression of microRNA-29c (miR-29c) decreases the expression of Deocorin which is associated with progesterone (P) resistance in baboons and women with endometriosis." San Juan, Puerto Rico. June 2015.
- ◆ **Kim TH.** Poster. "Stromal-epithelial crosstalk of Mig-6 has an important role for tumor suppression via progesterone in endometrial cancer." American Association for Cancer Research, Philadelphia, PA. April 2015.
- ◆ **Luke B.** Oral Presentation. "The Impact of Multiple Gestations on IVF Outcomes." March of Dimes-sponsored symposium, Perinatal Outcomes Following assisted Reproductive Technologies. 55th annual meeting of the Taratology Society. Montreal, Canada. June 2015.
- ◆ **Patterson AL.** Poster. "Over-activation of stromal beta-catenin results in sub-fertility due in part to decidualization defects." San Juan, Puerto Rico, June 2015.
- ◆ **Poncil SA.** Poster. "Cervical viral infections as a potential cause of preterm labor." San Juan, Puerto Rico. June 2015.
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- ◆ **Su RW.** Poster. "Continuously activated Notch signaling inhibits progesterone receptor expression via hypermethylation of its promoter." San Juan, Puerto Rico. June 2015.

### ***FUNDED GRANTS***

- ◆ **Fazleabas AT.** Co-Investigator - 2 R44 HD075571 (02-05) (SBIR - Phase II) "Novel ex vivo Immunoabsorption Therapy to Treat Preeclampsia." Apr 2015 - Mar 2019
- ◆ **Meghea CI.** Principal Investigator. NIH/Fogarty. "Family Smoking Cessation in Romania Using Pregnancy as a Window of Opportunity."