

# Centerpiece

## SUMMER IN RESEARCH

*CRepHS is buzzing with the excitement and enthusiasm of our summer students and visiting scholars. We have welcomed eight promising young scientists. To learn more about them and other new faculty, staff members and students, please visit our "New Faces in the Hallways" segment.*

Issue 2

June 2017

Quarterly Newsletter

## A SUCCESS STORY: NICOLE GILBERT, PHD

*Nicole Gilbert*, instructor in obstetrics and gynecology in the Department of Obstetrics and Gynecology, has received a K01 award funded by the NIH/National Institute of Diabetes and Digestive and Kidney Disorders.

The "*Role of Gardnerella vaginalis in the Urinary Tract*" project is aimed to provide Dr. Gilbert with the skills and expertise necessary to launch her career in translational medical research in the field of urologic disease, particularly bacterial infections of the urinary tract.



*Nicole Gilbert, PhD*

Recurrent urinary tract infection (rUTI) is a common and costly clinical problem, affecting millions of women in the U.S. and worldwide. We have found that the bacterium *Gardnerella vaginalis* triggers rUTI. The project seeks to understand how *G. vaginalis* causes rUTI and to determine whether *G. vaginalis* could serve as a biomarker of rUTI risk in women.



*Kelle H. Moley, MD*

## CONGRATULATIONS!

Kelle H. Moley, MD, Director of CRepHS, has been appointed the Vice Chair of the Membership Committee of the National Academy of Medicine starting October 1, 2017.

## AWARDS AND ACCOMPLISHMENTS

*Indira Mysorekar, PhD*, associate professor in the Department of Obstetrics and Gynecology, and Associate Director of CRepHS, has received a new \$3.04 mil. grant entitled "*Mechanisms of Zika Virus Maternal-Fetal Transmission*" in collaboration with *Michael Diamond, MD*, professor in the Department of Internal Medicine, Division of Infectious Diseases.

*Chinwendu Amazu*, the Medical Scientist Training Program student working toward her MD/PhD degree under the direction of Dr. Sarah England, has been awarded the 2017-2018 Porter Physiology Development Fellowship.

*Meghal Sheth* (Mysorekar lab) and *Pranita Kaginele* (England lab) are the recipients of the 2017 WU/BIO Summer Undergraduate Research Fellowship (BIOSurf) program.

*Brook Liang* is recipient of the MA/MD program fellowship from Washington University Medical School.

*Grace Y. Lee*, undergraduate student and a member of the England Lab, received the Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Award and the David S. Bruce Excellence in Undergraduate Research Award from the American Physiological Society for her outstanding work on "*Novel genetic variants in the oxytocin receptor predict oxytocin non-responsiveness in pregnant women*".

## NEW FACES IN THE HALLWAYS

**Dr. Toni Frolova**, earned her MD/PhD degree at Washington University in St. Louis. She is currently a Chief Resident in the Ob/Gyn department. She is a member of the England lab.



Dr. Toni Frolova

**Dr. Yin Yin** has joined Dr. Mysorekar's lab. Dr. Yin is a Visiting Researcher from Nanjing Medical University, Nanjing, China. She serves as an Attending Doctor of Obstetrics & Gynecology in Jiangsu Province Hospital. During her stay here she will investigate the role of



Dr. Yin Yin

the newly discovered placental microbiome in normal parturition as well as in adverse pregnancy outcomes such as preterm birth. **Aluet Borrego Alvarez**, MSc has recently joined Dr. Santi's lab as the Sr. Research Technician. Previously, she worked in Dr. Zipfel's cerebrovascular laboratory at the Department of Neurosurgery.



Aluet Borrego Alvarez

**Alexandra "Sasha" Medvedeva** has joined Dr. Moley's lab as a Research Technician II. Previously, she worked in Dr. Cruchaga's lab in the Department of Psychiatry.



Cari Mushill

**Stephanie Michalski** has joined Dr. Kommagani's lab as a Research Technician I in June 2017. Stephanie is a graduate of Indiana University - Purdue University Indianapolis, where she majored in Neuroscience.



Max Lyon

**Cari Mushill** joined the Center's administration team as Secretary III. **Maximilian Lyon** has recently joined Dr. Santi's lab. Max is a PhD student in the DBBS Molecular Cell Biology Program. **Tanner Roach** is Research Technician I in the Fuh Lab. He has a Bachelor's degree in Biology from Washington University in St. Louis.



Stephanie Michalski



Sasha Medvedeva



Tanner Roach

## VISITING SCHOLARS



Lis Puga Molina



Josephine Lau Nga Yue



Mariana Ford

**Mariana Ford (Santi Lab)** - is a visiting scholar from Universidad de la Republica in Montevideo, Uruguay. Mariana studies the role of mitochondria and generation of reactive oxygen species on sperm capacitation.

**Josephine Lau Nga Yue (Wang Lab)** - is a visiting scholar from University of Edinburgh, Edinburgh, United Kingdom. Josephine is a second year BSc student in Medical Sciences. Josephine observes experiments related to electrophysiology imaging.

**Lis del Carmen Puga Molina (Santi Lab)** - is a summer trainee from Instituto de Biología y Medicina Experimental, Buenos Aires, Argentina. Lis is a PhD student researching the molecular mechanisms associated with HCO<sub>3</sub>-influx during human sperm capacitation.

## FIVE FUN FACTS YOU DIDN'T KNOW ABOUT:

### Monali Prabagaran, PhD

Favorite place to visit one day:  
Svalbard, Norway

Favorite music: Indian classical

Favorite food: Seafood

Favorite holiday: Christmas

Favorite guilty pleasure:

Indulging in variety of chocolates from around the world (and not worrying about anything ☺)



## SUMMER TRAINEES

**Lucille Hanaway** is an undergraduate student at University of Notre Dame majoring in Biology and Economics. She joined the Moley lab for the summer.

**Anna Ilivicky** is an undergraduate student at University of Michigan, Ann Arbor pursuing a degree in Biology, International Studies and Spanish. She joined the Fuh lab.

**Katina Massad** is an undergraduate student at Williams College majoring in Chemistry. She is a member of the Fuh lab.



Anna Ilivicky



Katina Massad

**Austin Osula (Moley lab)** is a graduate from the Western University, Ontario, Canada where he majored in Medical Sciences. He is currently a WU medical student and a recipient of the 2017 Summer Research Program Fellowship from the Office of Medical Student Research.

**Sarah Speck** is an undergraduate student at Washington University in St. Louis majoring in Biology. She joined the Moley lab.

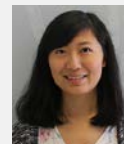
**Catherine Xu (Moley lab)** is a graduate from McGill University where she received a Bachelor's degree in Nutritional Biochemistry. Presently, she is a WU medical student and a recipient of the 2017 Summer Research Program Fellowship from the Office of Medical Student Research.



Austin Osula



Sarah Speck



Catherine Xu

## NEW PUBLICATIONS AND PRESENTATIONS (SINCE APRIL 2017)

### ENGLAND LAB:

1. **Novel oxytocin receptor variants in laboring women requiring high doses of oxytocin.** Reinl EL, Goodwin ZA, Raghuraman N, Lee GY, Jo EY, Gezahegn BM, Pillai MK, Cahill AG, De Guzman Strong C, England SK. *Am J Obstet Gynecol.* 2017 Apr 26. pii: S0002-9378(17)30565-3. doi: 10.1016/j.ajog.2017.04.036. [Epub ahead of print] PMID: 28456503

### KOMMAGANI LAB:

1. **Follistatin is critical for mouse uterine receptivity and decidualization.** Fullerton PT Jr, Monsivais D, Kommagani R, Matzuk MM. *Proc Natl Acad Sci U S A.* 2017 May 30. pii: 201620903. doi: 10.1073/pnas.1620903114. [Epub ahead of print] PMID: 28559342

### MOLEY LAB:

1. **Obesity-exposed oocytes accumulate and transmit damaged mitochondria due to an inability to activate mitophagy.** Boudoures AL, Saben J, Drury A, Scheaffer S, Modi Z, Zhang W, Moley KH. *Dev Biol.* 2017 Jun 1;426(1):126-138. doi: 10.1016/j.ydbio.2017.04.005. Epub 2017 Apr 21. PMID: 28438607

2. **Developmental and Transmittable Origins of Obesity-Associated Health Disorders.** Oestreich AK, Moley KH. *Trends Genet.* 2017 Jun;33(6):399-407. doi: 10.1016/j.tig.2017.03.008. Epub 2017 Apr 21. Review. PMID: 28438343

3. **Exposure to maternal obesogenic diet worsens some but not all pre-cancer phenotypes in a murine genetic model of prostate cancer.** Okeyo-Owuor T, Benesh E, Bibbey S, Reid M, Halabi J, Sutcliffe S, Moley K. *PLoS One.* 2017 May 10;12(5):e0175764. doi: 10.1371/journal.pone.0175764.

### MYSOREKAR LAB:

1. **TAM Receptors Are Not Required for Zika Virus Infection in Mice.** Hastings AK, Yockey LJ, Jagger BW, Hwang J, Uraki R, Gaitsch HF, Parnell LA, Cao B, Mysorekar IU, Rothlin CV, Fikrig E, Diamond MS, Iwasaki A. *Cell Rep.* 2017 Apr 18;19(3):558-568. doi: 10.1016/j.celrep.2017.03.058. PMID: 28423319

2. **Maternal-Fetal Transmission of Zika Virus: Routes and Signals for Infection.** Cao B, Diamond MS, Mysorekar IU. *J Interferon Cytokine Res.* 2017 Apr 12. doi: 10.1089/jir.2017.0011. [Epub ahead of print] PMID: 28402153

### SANTI LAB:

1. **A genetic variant of the sperm-specific SLO3 K<sup>+</sup> channel has altered pH and Ca<sup>2+</sup> sensitivities.** Geng Y, Ferreira JJ, Dzikunu V, Butler A, Lybaert P, Yuan P, Magleby KL, Salkoff L, Santi CM. *J Biol Chem.* 2017 May 26;292(21):8978-8987. doi: 10.1074/jbc.M117.776013. Epub 2017 Apr 4. PMID: 28377504

### PRESENTATIONS:

1. **Maternal diet-induced obesity leads to cardiovascular defects in three successive generation of offspring.** Ferey, J. *Cell Symposia: Exercise Metabolism.* Gothenburg, Sweden. May 2017.

Congratulations to *Suzanne Scheaffer* who is celebrating her 10<sup>th</sup> year anniversary at Washington University.



*Good job, Suzanne, and thank you for your hard work!*

And a special farewell to *Dr. Pascale Lybaert* who is returning back to Belgium.



*Bon chance, Pascale!*

