

CRepHS Newsletter

August 2022

A SEMESTER FORTIFIED WITH OPEN MINDS ROOTED IN SCIENCE

Dear CRepHS personnel and associates,

As we launch into this new semester, the recent decision of the Supreme Court is still resonating in the field of reproductive health sciences. I'm grateful to collaborate with researchers and health care providers who provide comprehensive and evidence-based reproductive health care. May we all work to have open-minded discussions with those whom might not see eye-to-eye.

As we start the academic year, we are gearing up to share our well-cultivated data and harvested wisdom through seminars, conferences, team meetings and more (see [page 5](#) for a list of events). I hope to have the chance to see and talk to many of you at an upcoming event to discuss some of the exciting work happening in CRepHS and the Department of Ob/Gyn.

Happy School Year!

Sarah



Sarah K. England, PhD
Alan A. and Edith L. Wolff Professor of Medicine
Vice Chair of Research and Professor,
Department of Obstetrics and Gynecology

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Next issue: November 2022

PERSONNEL UPDATE

(from previous fiscal quarter and current)

NEW TEAM MEMBERS



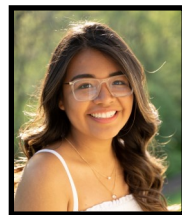
Amanda Compadre, MD
Clinical Fellow
Mullen Lab



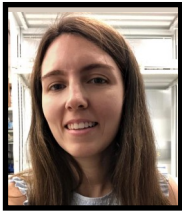
Audrey Liu
Undergraduate Researcher
England Lab



Olivia Graham
Clinical Laboratory Technician
*Gynecologic Oncology
Biorepository (Dr. Mullen)*



Jeimmy Rodriguez
Clinical Laboratory Technician
*Gynecologic Oncology
Biorepository (Dr. Mullen)*



Maria del Pilar Irigoyen
Visiting Researcher
Santi Lab



Nick Strand
Lab Assistant I
England Lab

PROMOTIONS



Ermira Hasanbelliu
Research Administrator
Department of Ob/Gyn



Magdalena Nelson, MBA
Director of Research/Business Operations
Department of Ob/Gyn



PERSONNEL UPDATE

(from previous fiscal quarter and current)

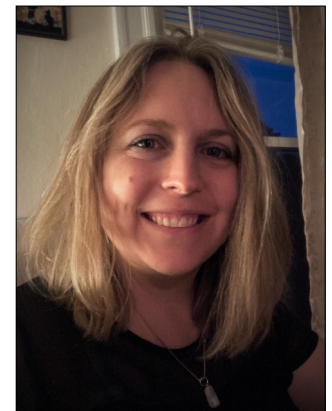
JOB OPPORTUNITIES

Research positions are available in CRepHS labs. Find more information and view all job opportunities by visiting <https://jobs.wustl.edu/>.

COLLABORATORS IN WOMEN'S HEALTH RESEARCH

Two new trainees recently began their fellowships through the Department of Ob/Gyn's T32 training grant titled, "Clinical Outcomes Research Training in Female Lower Urinary Tract Disorders," led by Co-Principal Investigators Jerry Lowder, MD, MSc, and Siobhan Sutcliffe, PhD, and funded through the NIH NIDDK.

Dr. Victoria Leigh Brown received her PhD in Anthropology from Binghamton University. Her dissertation focused on the lived experiences of female farm workers and economic precarity in an industrial agricultural enclave of Almería, Spain. She is looking forward to applying her anthropological expertise to topics in women's lower urinary tract health.



Victoria Leigh Brown, PhD



Samantha Zambuto, PhD, and Michelle Oyen, PhD

Dr. Samantha Zambuto received her PhD in Bioengineering from the University of Illinois Urbana-Champaign. Her dissertation focused on the role of stress in trophoblast invasion and endometrial function, using 3D *in vitro* model systems. She joined the Oyen Lab at the McKelvey School of Engineering in August.

Drs. Brown and Zambuto join T32 trainee Emily Barker, MD, who is completing her second year on the grant.

PERSONNEL Spotlight

Lindsey Kent, PhD
Senior Scientist
CRepHS



Our latest Personnel Spotlight features Dr. Lindsey Kent, Senior Scientist in the England Lab. She is a CRepHS researcher with a self-proclaimed enthusiasm for basic research and the reproductive field.

Lindsey grew up in Missouri and attended Truman State University in Kirksville, Mo., for her B.S. in Biology. After college, she moved to Kansas City and worked for several years as a Research Assistant at the University of Kansas Medical Center prior to joining their graduate program. Lindsey earned her Ph.D. in Reproductive and Developmental Biology from their Graduate Studies Program in the Department of Pathology and Laboratory Medicine.

During her graduate years, Lindsey studied how the AKT pathway regulates trophoblast differentiation and invasion under the mentorship of Dr. Michal J. Soares. For her postdoc she moved to Columbus, Ohio, to work with Dr. Gustavo Leone at The Ohio State University. There, she studied the role of the E2f family of transcription factors in cell cycle, liver cancer and development. When Dr. Leone's lab moved to the Medical University of South Carolina in Charleston, she moved, too, and became a Senior Scientist.

Lindsey recalls that "she did not like hurricanes," so after living in South Carolina for a few years, Missouri beckoned her back and into the WashU lab of Sarah K. England as a Senior Scientist. Since then, Lindsey has excelled in taking the time to understand the molecular mechanisms involved in fertility and pregnancy, and continues studying the role of the ion channel NALCN, and its subunits, in uterine smooth muscle excitability. This month marks her two year anniversary with the Department of Ob/Gyn and the England Lab.

"Teaching students in the lab is definitely one of my favorite aspects of my role here at WashU," Lindsey states. "It's rewarding to see trainees become more involved with reproductive health sciences, through experiments and observation, and then apply their new knowledge in the classroom."

When not in the lab, you may see Lindsey appreciating the historic and unique craftsmanship of brick homes in and around her St. Louis neighborhood, and finding a bit of peace and quiet amongst the established shade trees and courtyard gardens.

"Teaching students in the lab is definitely one of my favorite aspects of my role here at WashU."
-Lindsey Kent, PhD



UPCOMING EVENTS

Thursday, Sept. 1st, 4:00 p.m. >>> CRepHS Monthly Center Collaboration Meeting

Saturday, Sept. 10th, 7:00 p.m. >>> Ob/Gyn Departmental Party

Thursday, Sept. 22nd, 4:00 p.m. >>> [Center for Women's Health Engineering Launch](#)

Sept. 19th-23rd >>> [National Postdoc Appreciation Week](#)

Sept. 22nd-23rd >>> 47th Annual [Symposium on Obstetrics and Gynecology](#)

Sunday, Sept. 25th >>> National Research Administrator Day

Oct. 12th-14th >>> [National Conference on Women's Health and Sex Differences Research](#)

CRepHS Monthly Center Collaboration Meetings

Join us monthly on the 10th floor of the BJC-IH building!
Contact Kirsten Biggs and Audrey Johnston to learn more.

[Zoom link & registration](#)



CRepHS Seminar Series

Held in collaboration with the Center for Women's Infectious Disease Research (cWIDR) on Fridays, 9-10 a.m.

DATE	SPEAKER	AFFILIATION	HOST/LAB
Sept. 9th	Jesús Santiago-Borges / Anne Rosen, MA	Washington University—Medicine (Allergy & Immunology)	Kau
Sept. 16th	Michelle Oyen, PhD	Washington University—Biomedical Engineering	England
Sept. 30th	Sadie Wignall, PhD	Northwestern University	Santi
Oct. 7th	Hari Eswaran, PhD	UAMS Institute for Digital Health & Innovation	Wang
Oct. 14th	Song Hu, PhD	Washington University—Biomedical Engineering	Zhao
Oct. 21st	Yiqi Lin	Washington University—Electrical & Systems Engineering	Wang
Oct. 28th	Violeta Serra, PhD	Vall d'Hebron Institute of Oncology	Mullen
Nov. 4th	James Duncan, PhD	Washington University—Radiology	Khabele
Nov. 18th	Kumar Saurabh, PhD	Washington University—Ob/Gyn	Frolova

Seminar information is subject to change.

SCIENTIFIC ACCOMPLISHMENTS

(from previous fiscal quarter and current)

AWARDS & APPOINTMENTS

- **Kevin Prifti**, Senior Research Technician in the **Frolova Lab**, received the Basic Science Award at the Rothman Research Symposium in May 2022. Prifti's project and presentation on "Diet-induced obesity impairs uterine contractility in mice" was evaluated by a distinguished panel of select faculty and guest speaker.
- In July, Dr. Christine O'Brien, assistant professor of biomedical engineering in the McKelvey School of Engineering, with Ob/Gyn team members **Drs. Antonina Frolova and Peinan Zhao**, received Honorable Mention in the NIH Technology Accelerator Challenge for Maternal Health. They proposed to create a device that can inform early clinical decision-making for hemorrhage and preeclampsia in high- and low-resource settings.
- In August, **Maggie Mullen, MD**, had two abstracts submitted to The Journal of Visualized Experiments: Generation and Culturing Methods for Patient Derived Ovarian Cancer Organoids and Utilizing Immunofluorescent Assays in Patient Derived High-Grade Serous Ovarian Cancer Organoids to Visualize DNA Damage Repair Proteins.
- **Viju Gupta, PhD**, Senior Scientist in the **Khabele Lab**, was recently invited to serve as guest editor for JoVE (Journal of Visual Experimentation) special edition on ovarian cancer methods.
- **Dr. Viju Gupta's** abstract entitled, "Olaparib in combination with entinostat, improves tumor immunity in syngeneic murine models of ovarian cancer" has been accepted for a virtual poster presentation at the upcoming 14th Biennial Virtual Ovarian Cancer Research Seminar Series presented by the Rivkin Center and the American Association for Cancer Research in September 2022.



Kevin Prifti



Viju Gupta, PhD

PRESENTATIONS

- **Emily Graham**, summer researcher in the **Mullen Lab**, presented a poster on her research at William Carey Osteopathic Medical School and won "Most Prestigious Poster."

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SCIENTIFIC ACCOMPLISHMENTS

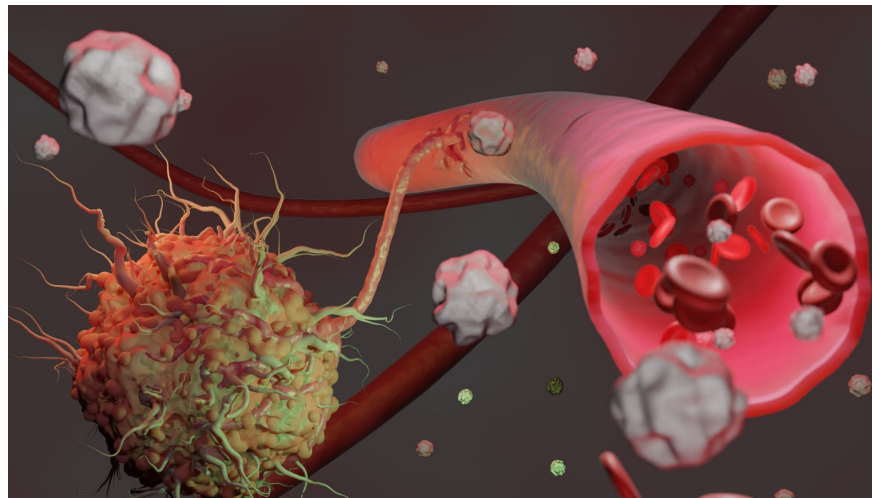
(from previous fiscal quarter and current)

PRESENTATIONS *...continued*

- **Sarah England, PhD**, presented for:
 - ◆ Yale University on May 9th: “Chronodisruption and Reproductive Outcomes,” Harold R. Behrman Memorial Lecture honoree.
 - ◆ Frontiers in Reproduction, Marine Biological Laboratory on June 9th: “Mouse Models of Pregnancy.”
 - ◆ The Society for the Study of Reproduction annual meeting in July: “Excitability changes at the molecular level and impacts on maternal outcomes.”
 - ◆ The Gordon Conference on Mammalian Reproduction at Mount Snow in Vermont in August: “How ion channel modulation impact pregnancy outcomes.”

PUBLICATIONS*

- [Sleep behavior and chronotype before and throughout pregnancy.](#) Zhao P, Bedrick BS, Brown KE, McCarthy R, Chubiz JE, Ju YS, Raghuraman N, Fay JC, Jungheim ES, Herzog ED, **England SK**. Sleep Med. 2022 Jun;94:54-62. doi: 10.1016/j.sleep.2022.04.002. Epub 2022 Apr 14. PMID: 35489118.
- [Molecular profiles of endometrial cancer tumors among Black patients.](#) Wilhite AM, Baca Y, Xiu J, Paladugu R, ElNaggar AC, Brown J, Winer IS, Morris R, Erickson BK, Olawaiye AB, Powell M, Korn WM, Rocconi RP, **Khabele D**, Jones NL. Gynecol Oncol. 2022 Jul;166(1):108-116. doi: 10.1016/j.ygyno.2022.04.014. Epub 2022 Apr 28. PMID: 35490034.
- [Stimulating TAM-mediated anti-tumor immunity with mannose-decorated nanoparticles in ovarian cancer.](#) Glass EB, Hoover AA, Bullock KK, Madden MZ, Reinfeld BI, Harris W, Parker D, Hufnagel DH, Crispens MA, **Khabele D**, Rathmell WK, Rathmell JC, Wilson AJ, Giorgio TD, Yull FE. BMC Cancer. 2022 May 6;22(1):497. doi: 10.1186/s12885-022-09612-2. PMID: 35513776; PMCID: PMC9074180.



TUMOR METASTASIS
Image credit: Anthony Bartley/
Washington University School
of Medicine

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*Labs in bold.

SCIENTIFIC ACCOMPLISHMENTS

(from previous fiscal quarter and current)

PUBLICATIONS* *...continued*

- [Severity of intrapartum fever and neonatal outcomes.](#) Hensel D, Zhang F, Carter EB, **Frolova AI**, Odibo AO, Kelly JC, Cahill AG, Raghuraman N. Am J Obstet Gynecol. 2022 May 19;S0002-9378(22)00375-1. doi: 10.1016/j.ajog.2022.05.031. Epub ahead of print. PMID: 35598690.
- [Complications of peripherally inserted central catheters in pregnancy: a systematic review and meta-analysis.](#) **Frolova AI**, Shanahan MA, Tuuli MG, Simon L, Young OM. J Matern Fetal Neonatal Med. 2022 May;35(9):1739-1746. doi: 10.1080/14767058.2020.1769591. Epub 2020 May 22. PMID: 32441173.
- [Analysis of Electrophysiological Activation of the Uterus During Human Labor Contractions.](#) Cahill AG, Wen Z, Wang H, Zhao P, Sun Z, Schwartz AL, **Wang Y**. JAMA Netw Open. 2022 Jun 1;5(6):e2214707. doi: 10.1001/jamanetworkopen.2022.14707. PMID: 35653158; PMCID: PMC9164003.
- [Clinical significance of umbilical artery intermittent vs persistent absent end-diastolic velocity in growth-restricted fetuses.](#) Bligard KH, Xu X, Raghuraman N, Dicke JM, Odibo AO, **Frolova AI**. Am J Obstet Gynecol. 2022 Jun 10;S0002-9378(22)00451-3. doi: 10.1016/j.ajog.2022.06.005. Epub ahead of print. PMID: 35697096.
- [Discovery and Characterization of Multiple Classes of Human CatSper Blockers.](#) Carlson EJ, Francis R, Liu Y, Li P, Lyon M, **Santi CM**, Hook DJ, Hawkinson JE, Georg GI. ChemMedChem. 2022 Aug 3;17(15):e202000499. doi: 10.1002/cmdc.202000499. Epub 2022 Jun 14. PMID: 35644882; PMCID: PMC9378630.
- [Stretchable Sponge Electrodes for Long-Term and Motion-Artifact-Tolerant Recording of High-Quality Electrophysiologic Signals.](#) Lo LW, Zhao J, Aono K, Li W, Wen Z, Pizzella S, **Wang Y**, Chakrabartty S, Wang C. ACS Nano. 2022 Jul 21. doi: 10.1021/acsnano.2c04962. Epub ahead of print. PMID: 35861486.
- [GAS6-AXL Inhibition by AVB-500 Overcomes Resistance to Paclitaxel in Endometrial Cancer by Decreasing Tumor Cell Glycolysis.](#) Bruce SF, Cho K, Noia H, Lomonosova E, Stock EC, Opl A, Blachut B, **Mullen MM**, Kuroki LM, Hagemann AR, McCourt CK, Thaker PH, **Khabele D**, Powell MA, Mutch DG, Shriver LP, Patti GJ, Fuh KC. Mol Cancer Ther. 2022 Aug 2;21(8):1348-1359. doi: 10.1158/1535-7163.MCT-21-0704. PMID: 35588308; PMCID: PMC9370070.



Image credit: Anthony Bartley/Washington University School of Medicine

Continued on next page...

*Labs in bold.

SCIENTIFIC ACCOMPLISHMENTS

(from previous fiscal quarter and current)

PUBLICATIONS* ...continued

- [Absolute Quantification of Plasma Membrane Receptors Via Quantitative Flow Cytometry.](#) Fang Y, Malik M, **England SK**, Imoukhuede PI. Absolute Quantification of Plasma Membrane Receptors Via Quantitative Flow Cytometry. *Methods Mol Biol.* 2022;2475:61-77. doi: 10.1007/978-1-0716-2217-9_4. PMID: 35451749; PMCID: PMC9261967. (available on 2023-01-01)
- [A multidisciplinary Prematurity Research Cohort Study.](#) Stout MJ, Chubiz J, Raghuraman N, Zhao P, Tuuli MG, Wang LV, Cahill AG, Cuculich PS, **Wang Y**, Jungheim ES, Herzog ED, Fay J, Schwartz AL, Macones GA, **England SK**. *PLoS One.* 2022 Aug 25;17(8):e0272155. doi: 10.1371/journal.pone.0272155. PMID: 36006907.

*Labs in bold.



Barnes-Jewish Hospital (Washington University Physicians) is **No. 3 in the Nation for Obstetrics & Gynecology care** according to the latest data from U.S. News & World Report. More information about the “Best Hospitals” rankings and ratings can be found at <https://health.usnews.com/best-hospitals/rankings>.

FEATURED FUNDING OPPORTUNITIES

- [NOT-HD-22-026](#): Advancing Research on the Early Pregnancy Loss
- [RFA-HD-23-004](#): Bioprinted Tissue Constructs for Obstetric, Gynecologic and Pediatric Applications
- [NOT-HD-22-035](#): The Rapid Acceleration of Diagnostics Technology (RADx® Tech) for Maternal Health Challenge

View recurrent funding opportunities at <https://obgyn.wustl.edu/research/resources-funding/> and learn about **NIH Loan Repayment Programs** at <https://www.lrp.nih.gov/>.

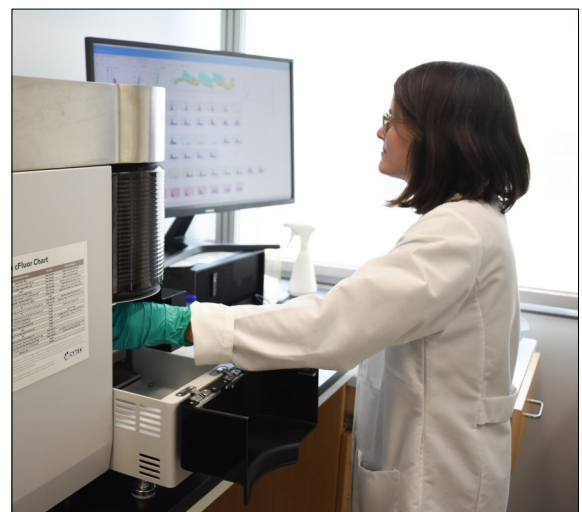


Photo credit: [Anthony Bartley](#)/Washington University School of Medicine

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SUBMIT YOUR NEWS

News for consideration is always welcome! Email ejulie@wustl.edu by November 11, 2022, to have your news and information considered for the next edition of the CRepHS Newsletter.

CONTACT CRepHS

Visit our website at <https://reproductivesciences.wustl.edu/> or email questions and feedback related to CRepHS to audreyj@wustl.edu.

About CRepHS

The [Center for Reproductive Health Sciences](#) (CRepHS) aims to improve the overall health of women and men by making reproductive health a priority in investigative and translational science. As the basic science division of Washington University School of Medicine's [Department of Obstetrics and Gynecology](#), CRepHS' research productivity is accomplished through highly collaborative interdisciplinary lab environments.

The Center's current research emphasis includes basic biology of reproductive health; multiple approaches to developmental biology with concentrations in cell biology, animal models, and genetics; studies of healthy human development; developmental endocrinology; neurosciences; translational imaging; medical device development; reproductive cancers; and population health research.