

# CRepHS Newsletter

May 2023

## MESSAGE FROM THE DIRECTOR

Dear Colleagues,

We just wrapped up our annual Dr. David Rothman Research Day. I was energized watching our residents, fellows, and students deliver amazing presentations to a large audience of peers, faculty, staff, and collaborators.

Our researchers are truly doing great basic, clinical, and translational work to advance knowledge and improve care in obstetrics and gynecology and reproductive health. I was especially excited to see that many projects included researchers from across divisions, departments, and schools at Washington University.

By harnessing the power of collaboration, we can achieve great things!

*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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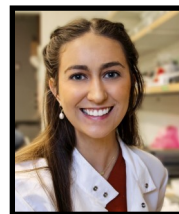
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*Next issue: August 2023*

# PERSONNEL UPDATE

## NEW TEAM MEMBERS

**MADISON CARLGREN**  
Clinical Research Coordinator, O'Brien Lab



**KEVIN PRIFTI**  
DBBS Graduate Student, Frolova Lab



## MILESTONE AWARDS

Congratulations to our 2023 WashU Med School Campus  
“[Staff Service Milestone Award](#)” recipients!



**Ruth Gill**  
(Frolova Lab)



**Wendy Zhang**  
(Khabele Lab)



**Mira Hasanbelliu**



**Elena Lomonosova**  
(Mullen Lab)



**Carrie Westphal**

# PERSONNEL Spotlight

**Wendy Zhang**  
Senior Research Technician  
Khabele Lab



For this edition of our personnel spotlight on Wendy Zhang, we firstly want to celebrate her 25 years of service to WashU Ob/Gyn. Wendy is a Senior Research Technician in the Khabele Lab, and her dedication to clinical cancer research endeavors has been an asset to the department.

Wendy's interest in the field of life sciences and biology began while earning her Bachelor of Science degree. She has enjoyed the field ever since, and has accumulated 30 years of experience – five at BJC HealthCare, and the rest with us here at WashU School of Medicine.

As for her research work within the lab of Dineo Khabele, MD, Wendy states, “Ovarian cancer is a deadly gynecologic disease. Poly (ADP-ribose) polymerase (PARP) inhibitors (PARPi) have shown promising results in improving survival among ovarian cancer patients. However, only about 50-percent of patients respond to PARPi. The other half of patients bear tumors that are either resistant or acquire resistance to therapy.”

Wendy helps support the lab's efforts in identifying novel drug combinations that can make resistant tumors sensitive to PARPi.

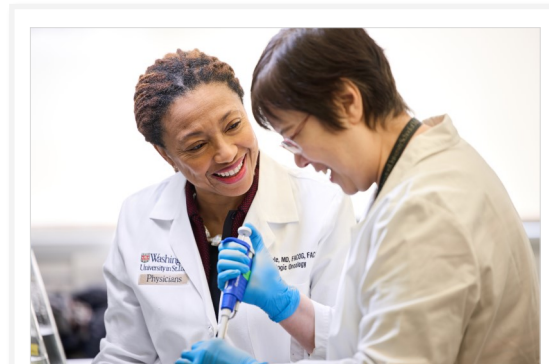
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*“I use my expertise and experience in immunohistochemistry/immunofluorescence to facilitate the projects. Additionally, I am responsible for maintaining the lab, ordering supplies, keeping lab inventory and regulatory documents updated.”*

*-Wendy Zhang*

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She has a particular fondness for two cities, those that she considers her “lovely hometowns”: Beijing and St. Louis. Part of her ties to both cities is her local involvement as a volunteer with a Chinese Sunday school for the past 20 years; she also is a member of a Chinese choir committee and enjoys the performances with beautiful costumes. Wendy's upcoming five-year plans include retirement planning and continuing her extracurricular activities. ■



**Dr. Khabele & Wendy Zhang.**  
Photo by: Matt Miller/Washington University  
School of Medicine



**WashU Medical Campus, St. Louis, Mo.**  
Photo ©Srenco2018

# UPCOMING OPPORTUNITIES

## SPECIAL EVENTS

**Friday, May 26th, 9 a.m.** >>> [CRepHS Seminar](#), Amanda Compadre, MD

**Thursday, June 1st, 5:30 p.m.** >>> [WashU's Recognition Gala](#)

**Friday, June 2nd, 9 a.m.** >>> [CRepHS Seminar](#), Santi Lab

**Friday, June 9th, 9 a.m.** >>> [CRepHS Seminar](#), Erin Reinl, PhD

**Sunday, June 25th** >>> [Pride Parade](#) with LGBTQmed & OUTmed

**Wednesday, July 19th, 12:15 p.m.** >>> WashU [Ob/Gyn Town Hall](#)



## SUMMER JOURNAL CLUB

Summer Journal Club is being offered by the Department of Ob/Gyn. It's a reproduction-focused club in which all are welcome to attend the meetings on Fridays, from 9 to 10 a.m., June through August. Attendance is hybrid via Zoom and in-person. Contact [Lindsey Kent, PhD](#), to learn more.



## THE WRITING CIRCLE

The Writing Circle (coming soon) will be open to researchers that have a shared interest in receiving writing support and camaraderie. The dates of these monthly group meetings will be announced soon.



## INTRODUCTION TO ELECTROPHYSIOLOGY

This new workshop-style course is being taught in June through August by Juan J. Ferreira, PhD, and Maximillian Lyon. Participants will gain knowledge of electrophysiological techniques. Email [juanferreira@wustl.edu](mailto:juanferreira@wustl.edu) to learn more.



# UPCOMING OPPORTUNITIES

## FUNDING

- The **NIH Loan Repayment Programs** can counteract educational debt of researchers in return for a commitment to engage in NIH mission-relevant research. Find out more at [www.lrp.nih.gov](http://www.lrp.nih.gov).
- The Washington University Institute of Clinical and Translational Sciences (ICTS) offers the **[Clinical and Translational Research Funding Program](#)** and the **[Just-In-Time Core Usage Funding Program](#)**.
- **Repro Grants** ([www.reprogrants.org](http://www.reprogrants.org)) offers fast funding for female reproductive science.
- **Recurrent:** [obgyn.wustl.edu/research/resources-funding](http://obgyn.wustl.edu/research/resources-funding)

## WASHU PERKS!



**WashU Kudos Board:** Recognize a coworker, celebrate a colleague, and express your gratitude for any number of reasons! Go to [www.kudoboard.com/boards/dyL9pker](http://www.kudoboard.com/boards/dyL9pker)



**Wellness Connection:** Audrey Johnston, MBA, is one of our department's advocates for healthy living! She is helping promote the [8ight Ways to Wellness](#) as a Wellness Champion while also addressing the unique needs of our department. Please send feedback or questions about increasing the well-being of our workplace to Audrey at [audreyj@wustl.edu](mailto:audreyj@wustl.edu).



**Move into Mindfulness:** Reduce stress, increase focus and develop practical coping skills through WashU HR's Move into Mindfulness programs. Beginner and advanced classes are offered year-round for WashU employees at no cost. Check it out: [hr.wustl.edu/items/move-into-mindfulness](http://hr.wustl.edu/items/move-into-mindfulness).



**Name Coach:** Did you know you can share the pronunciation of your name in your email signature, LinkedIn profile, and social media to help others say your name with confidence? Go to [it.wustl.edu/items/namecoach](http://it.wustl.edu/items/namecoach) to start utilizing this tool.



**WashU Night at the Ballpark:** Join your colleagues, friends and family on Sept. 15, 2023, to cheer on the Cardinals at Busch Stadium! Learn more about this Major League Baseball event and purchase discounted tickets at [hr.wustl.edu/items/employee-night-at-the-ballpark](http://hr.wustl.edu/items/employee-night-at-the-ballpark).

# SCIENTIFIC ACCOMPLISHMENTS

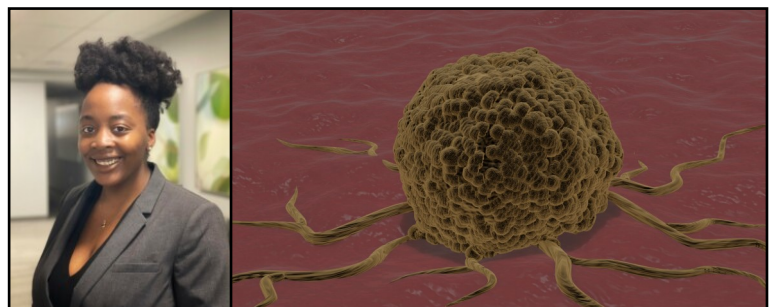
(from fiscal quarter three)

## AWARDS & APPOINTMENTS

- Washington University's **Department of Obstetrics & Gynecology** has once again achieved a US top 10 ranking! Funds awarded to our department by the National Institutes of Health totaled \$6.44M in 2022, as reported by [Blue Ridge Institute for Medical Research](#). Congratulations to our amazing and dedicated research teams!
- In January, WashU OBGYN collaborator **Dr. Christine O'Brien**, assistant professor of biomedical engineering in the McKelvey School of Engineering, and her team received a \$20,000 prize from the National Institutes of Health's Rapid Acceleration of Diagnostics Technology (RADx Tech) for Maternal Health Challenge. Check out the following paper, with authorship including Drs. O'Brien and **Frolova**, to learn more about WashU's women's health research endeavors: [Maternal aRMOR: early detection of postpartum hemorrhage with a wearable optical device](#).
- Zhexian Sun**, a PhD student in the lab of **Dr. Yong Wang**, had his paper published in the February 2023 issue of the [Ultrasound in Obstetrics and Gynecology \(UOG\) Journal](#) and featured on the cover.
- Research from **Yong Wang, PhD**, Alan Schwartz, MD, PhD, and Alison Cahill, MD, was featured in a [NIH NICHD news release](#) in March. Dr. Wang and his team, funded by the National Institutes of Health, have developed a new imaging tool, called electromyometrial imaging (EMMI), to create real-time, three-dimensional images and maps of contractions during labor. **Dr. Wang** also had his research on placenta MRI scans featured in a [NIH NICHD media advisory](#) in February. His NIH-funded research study team includes Dr. Alison Cahill at the University of Texas at Austin.
- Bisiayo Fashemi, PhD**, postdoctoral research associate in the Khabele lab, received a 2023 Mentored Investigator Grant from [Ovarian Cancer Research Alliance \(OCRA\)](#). Her research project, titled "Organoids to Evaluate an Epigenetic Drug Regimen for HR Proficient Ovarian," proposes the use of patient-derived ovarian cancer organoids, which are 3D miniaturized and simplified organs made from tumor biopsies and ascites fluid, to screen for novel combination therapies. Dr. Fashemi's OCRA grant provides a total of \$75,000 and began in March 2023.



Dr. Yong Wang



Dr. Bisi Fashemi

Organoid. Image by: [Anthony Bartley](#)/  
Washington University School of Medicine

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# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter three)

## AWARDS & APPOINTMENTS *...continued*

- **Antonina Frolova, MD, PhD**, was one of 28 investigators to receive a grant from the [Clinical and Translational Research Funding Program](#) (CTRFP) in March. The award will support Dr. Frolova's research project titled, "Sphingosine-1-phosphate Signaling in Parturition." Her research aims to optimize uterine contractility and improve obstetric outcomes for millions of women and babies. The CTRFP grants are supported with funding from the WashU Institute of Clinical and Translational Sciences (ICTS), The Foundation for Barnes-Jewish Hospital and ICTS partner institutions: Saint Louis University and the University of Missouri-Columbia. Dr. Frolova's project period began in March 2023 with an award of \$50,000.
- **Nicole Dallas**, undergraduate researcher in the Frolova lab, was accepted as a scholar in the WashU [MSTP ACCESS Summer Research Program](#). The program aims to increase and support the diversity of the physician-scientist workforce. It provides admitted scholars with a variety of enrichment activities, lab work with prestigious scientists, mentorship from WashU faculty and MSTP students, and also includes a scholar stipend. Nicole begins the program on May 30<sup>th</sup>, with the program culminating at a Scientific Symposium on July 28<sup>th</sup>.
- **Trinidi Prochaska**, undergraduate researcher in the England lab, was accepted into the graduate program in [Neuroscience at Emory University](#) in Atlanta.
- **Juan Ferreira, PhD**, postdoctoral research associate in the Santi Lab, recently earned a fellowship award from the [Lalor Foundation](#) for his research on a new assay to evaluate sperm fertilization capacity in infertile patients. Dr. Ferreira's "WHICH-A.R.T." project is a research endeavor aimed at developing a reliable and clinically feasible assay that can personalize assisted reproductive technologies (ART) or fertility treatment plans for normozoospermic infertile men. The research project will primarily take place in the lab of Dr. Celia Santi. The Lalor Foundation provides \$55,000 for Dr. Ferreira's 12-month-long fellowship beginning in June. Read more on this story [here](#).



Dr. Toni Frolova



Nicole Dallas



Image by: [Anthony Bartley](#)  
Washington University School of Medicine

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter three)

## PRESENTATIONS

- **Shweta Bhagwat, PhD**, was selected to participate with a cohort of WashU postdocs in “storyteller training” workshops led by [Campfire](#) and the WashU [Office of Postdoctoral Affairs](#). In March, Dr. Bhagwat received her certificate of achievement for completing the “Campfire Academy” with a speech about her scientific journey and postdoc appointment in the lab of Celia Santi, MD, PhD, at the 18<sup>th</sup> annual Washington University Postdoc Symposium. Additionally, **Viju Gupta, PhD**, senior scientist in the Khabele lab, was a career path speaker at the roundtable sessions for postdocs at the symposium.

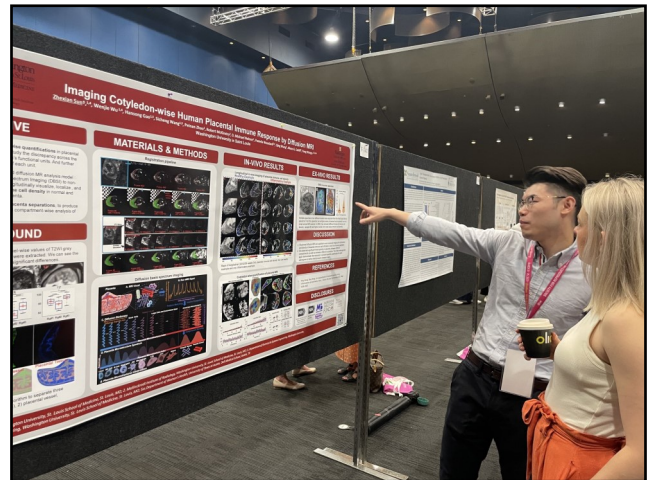


Dr. Shweta Bhagwat



Dr. Viju Gupta

- WashU represented at the 70th Annual Meeting of the [Society for Reproductive Investigation](#) (SRI) held in Brisbane, Australia, in March. **Sicheng Wang** and **Yiqi Lin** (Wang lab) each were recipients of a SRI President’s Presenter’s Award, **Patricia Strutz, MD, MSCI** (England lab) and **Zhexian Sun** (Wang lab) each won a Poster Award, and Favour Akinjiyan (formerly of the Fuh lab) won a Brisbane Travel Award. Additionally at the event, **Sarah England, PhD**, presented in a career development workshop on the topic of budgeting and grant management, and **Toni Frolova, MD, PhD**, presented on “Maternal Obesity and Mechanisms of Myometrial Dysfunction.” **Dr. England** also was appointed to the [SRI Council](#) as a council member.



Zhexian Sun (left) discusses his research at the SRI meeting.

- Ebony Carter, MD, MPH, Emily Diveley, BSN, **Antonina Frolova, MD, PhD**, Cassy Hardy, RN, Jeannie Kelly, MD, FACOG, MS, Anthony Odibo, MD, MSCE, Nandini Raghuraman, MD, MSCI, Rebecca Rimsza, MD, and **Peinan Zhao, PhD**, were selected to present on the topics of labor, prematurity, ultrasound/imaging, reproductive health equity, and more at the Society for Maternal-Fetal Medicine’s 43rd annual “[Pregnancy Meeting](#).” The event was held Feb. 6-11 in San Francisco.

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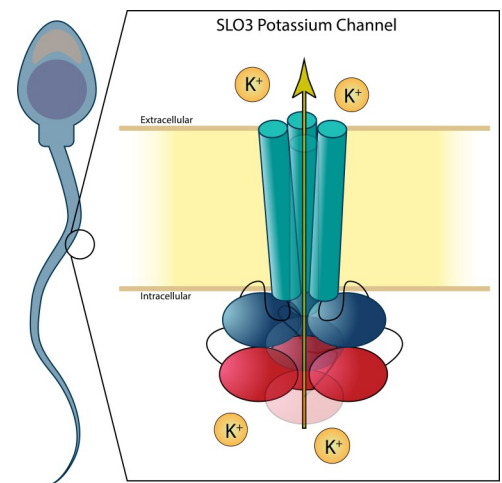


# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter three)

## PRESENTATIONS *...continued*

- During Black History Month, **Dineo Khabele, MD**, and resident Halley Staples, MD, were featured in a KMOV television station special feature on the topic of tackling disparities impacting people of color. View the story [here](#).
- “The Scientist” magazine featured the expertise of **Celia Santi, MD, PhD**, in an article titled, “Fast-Acting Nonhormonal Male Birth Control Prevents Pregnancy in Mice” on Feb. 15th. She is quoted on aspects of sperm physiology and the importance of contraceptive innovations. [Read the full article here](#). Dr. Santi also provided insight about her lab’s research on SLO-3 inhibitor to NetDoktor, a website with content all based on peer-reviewed medical research. [The article](#) is about the Santi lab’s PNAS paper in which pre-doc student researcher **Maximilian Lyon** is the first author. Max was interviewed on Jan. 25th about this research by German public radio station Bayern 2 radio for their program “IQ-Wissenschaft und Forschung” (science and research block). The discussion about a “new male contraceptive method” can be listened to [here](#).
- Several CRepHS researchers were able to network, present and discuss the latest science in the field of gynecologic oncology at the [SGO Annual Meeting on Women’s Cancer](#)® in March. **Dineo Khabele, MD**, presented in a scientific plenary and an education forum, **Bisiayo Fashemi, PhD**, (Khabele lab) presented in an emerging therapeutics plenary and poster session, and **Amanda Compadre, MD**, (Mullen lab) presented in a poster session. Additionally, the Program Committee for this annual meeting was co-chaired by **Dr. Khabele**.



SLO-3 (top); ovarian cancer.  
Images by: Anthony Bartley/  
Washington University  
School of Medicine

## PUBLICATIONS

- [Generation and Culturing of High-Grade Serous Ovarian Cancer Patient-Derived Organoids](#). Graham O, Rodriguez J, van Biljon L, Fashemi B, Graham E, Fuh K, **Khabele D**, **Mullen M**. J Vis Exp. 2023 Jan 6;(191). doi: 10.3791/64878. PMID: 36688549.

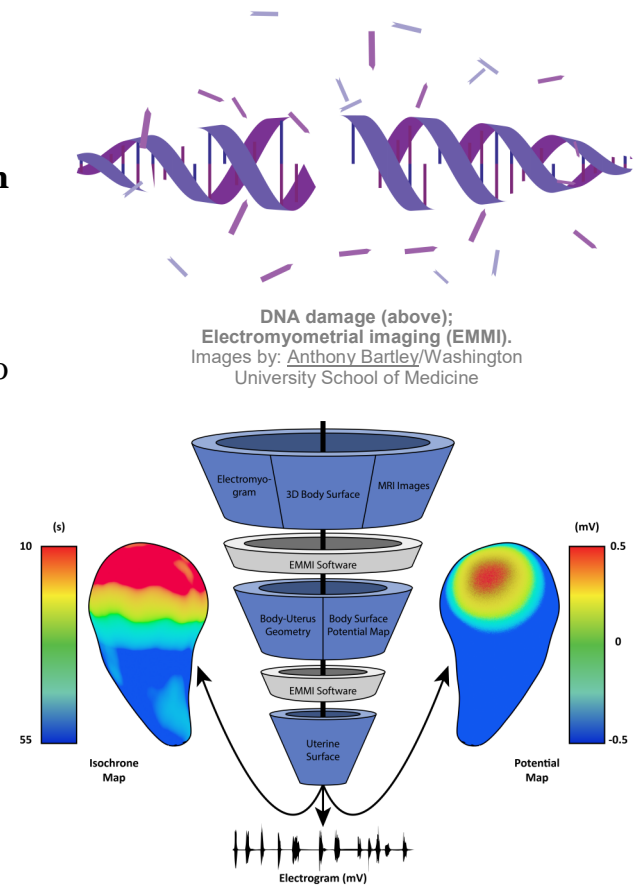
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# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter three)

## PUBLICATIONS\* ...continued

- [3D bi-directional transformer U-Net for medical image segmentation](#). Fu X, Sun Z, Tang H, Zou EM, Huang H, **Wang Y**, Zhan L. *Front Big Data*. 2023 Jan 6;5:1080715. doi: 10.3389/fdata.2022.1080715. PMID: 36687770; PMCID: PMC9853518.
- [Association between Elevated Intrauterine Resting Tone during Labor and Neonatal Morbidity](#). Rimsza RR, Raghuraman N, Carter EB, Kelly JC, Cahill AG, **Frolova AI**. *Am J Perinatol*. 2023 Feb 24. doi: 10.1055/a-2022-9588. Epub ahead of print. PMID: 36720261.
- [Visualizing DNA Damage Repair Proteins in Patient-Derived Ovarian Cancer Organoids via Immunofluorescence Assays](#). van Biljon L, Fashemi B, Rodriguez J, Graham O, Compadre A, Fuh K, **Khabele D, Mullen M**. *J Vis Exp*. 2023 Feb 24;(192). doi: 10.3791/64881. PMID: 36912550.
- [Noninvasive electromyometrial imaging of human uterine maturation during term labor](#). Wang H, Wen Z, Wu W, Sun Z, Kisrieva-Ware Z, Lin Y, Wang S, Gao H, Xu H, Zhao P, Wang Q, Macones GA, Schwartz AL, Cuculich P, Cahill AG, **Wang Y**. *Nat Commun*. 2023 Mar 14;14(1):1198. doi: 10.1038/s41467-023-36440-0. PMID: 36918533; PMCID: PMC10015052.
- [Social disadvantage during pregnancy: effects on gestational age and birthweight](#). Luby JL, **England SK**, Barch DM, Warner BB, Rogers C, Smyser CD, Triplett R, Arora J, Smyser TA, Slavich GM, Zhao P, Stout M, Herzog E, Miller JP. *J Perinatol*. 2023 Apr;43(4):477-483. doi: 10.1038/s41372-023-01643-2. Epub 2023 Mar 13. PMID: 36914799; PMCID: PMC10079545.
- [Video Instruction for Pushing in the Second Stage \(VIPss\): A randomized controlled trial](#). Rimsza RR, Perez M, Woolfolk C, Kelly JC, Carter EB, **Frolova AI**, Odibo AO, Raghuraman N. *Am J Obstet Gynecol*. 2023 Mar 18:S0002-9378(23)00170-9. doi: 10.1016/j.ajog.2023.03.024. Epub ahead of print. PMID: 36940771.
- [Efficacy of Postpartum Pharmacologic Thromboprophylaxis: A Systematic Review and Meta-analysis](#). Oakes MC, Reese M, Colditz GA, Stoll CRT, Hardi A, Arnold LD, **Frolova AI**. *Obstet Gynecol*. 2023 Apr 1;141(4):697-710. doi: 10.1097/AOG.0000000000005122. Epub 2023 Mar 9. PMID: 36897147; PMCID: PMC10026960.



\*Labs in bold.

# COLLABORATIONS

(from fiscal quarter three)

## PUBLICATIONS FROM OUR COLLABORATORS

### From WashU's Center for Women's Health Engineering:

[Engineering is pregnant with possibilities.](#)

Oyen ML. Sci Adv. 2023 Jan 25;9(4):eadg6048. doi: 10.1126/sciadv.adg6048. Epub 2023 Jan 25. PMID: 36696499.

### From WashU's Dept. of Pediatrics:

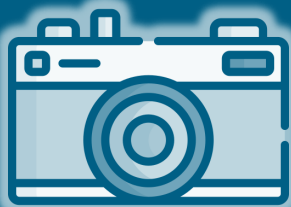
[The plasma virome in longitudinal samples from pregnant patients.](#)

Stout MJ, Brar AK, Herter BN, Rankin A, Wylie KM. Front Cell Infect Microbiol. 2023 Feb 9;13:1061230. doi: 10.3389/fcimb.2023.1061230. PMID: 36844406; PMCID: PMC9949529.



Our OB/GYN researchers love collaborating! Check out this in-depth article from the McKelvey School of Engineering about improving women's health by utilizing engineering tools and techniques: [engineering.wustl.edu/news/magazine/2023-winter/engineering-womens-health.html](https://engineering.wustl.edu/news/magazine/2023-winter/engineering-womens-health.html).

## COLLABORATION MEETING



CRepHS and WashU personnel got crafty on the 10th floor of the BJC-IOH building at the monthly CRepHS Collaboration meeting on February 14th.



## SOCIAL CONNECTIONS



### Twitter

[@DKhabeleMD](#)  
[@Englandsk785](#)  
[@FrolovaToni](#)  
[@MaggieMullenLab](#)  
[@santi\\_lab](#)  
[@WashU\\_OBGYN](#)  
[@yongwangwashu](#)



### Instagram

[@england.sk](#)  
[@washu](#)  
[@washumedicine](#)  
[@washuobgyn](#)

## COLLABORATE WITH US

Join us for CRepHS Monthly Center Collaboration Meetings, held on the 10th floor of the BJC-IOH building. Contact Kirsten Biggs and Audrey Johnston to learn more.

## SUBMIT YOUR NEWS

News for consideration is always welcome! Email [ejulie@wustl.edu](mailto:ejulie@wustl.edu).

## CONTACT CRepHS

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