

# CRepHS Newsletter

August 2023

## MESSAGE FROM THE DIRECTOR

Dear CRepHS personnel and associates,

As summer fades away, we find another new academic year upon us. With that, our laboratories and offices are excited to welcome aboard new undergraduate researchers, postdocs, fellows, and faculty. Together with our current personnel and multidisciplinary collaborators, we look forward to fostering their skills for the benefit of reproductive health sciences research.

Welcome to another year of teaching, learning, and scientific discoveries!

*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 2023*

# PERSONNEL UPDATE

(from fiscal quarter four)

## NEW TEAM MEMBERS

**ARIANA GAYDON** (she/her)  
Research Technician I, Santi Lab



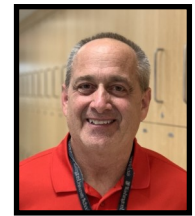
Gaydon

**ISABEL GERARD** (she/her)  
Research Technician I, England Lab



Gerard

**RONALD MCCARTHY** (he/him)  
Senior Scientist, England and Santi Labs



McCarthy

**TSUYOSHI MURATA, MD, PhD** (he/him)  
Visiting Researcher, England Lab



Murata

**JOSIE OFORI-APAU** (she/her)  
Undergraduate Researcher, England Lab



Ofori-Apau

## A STAR IN RESEARCH SUPPORT

**Magdalena Nelson, MBA**, Director of Research and Business Administration in the Department of Ob/Gyn, is this year's recipient of the WashU "[Research Support Award](#)" from the School of Medicine. The award recognizes employees for exceptional performance or cooperation, outstanding leadership, and superior quality of service. As a distinguished honors awardee, Magdalena was invited to the 2023 Recognition Gala, and received a cash prize and a personalized plaque.

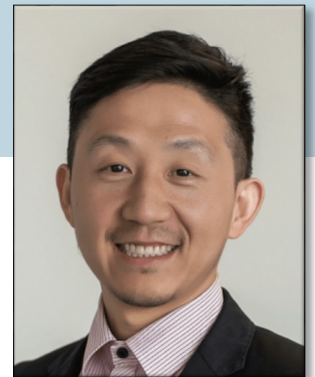
Moreover, Magdalena recently earned the "STAR" certificate signed by the Vice Chancellor of Research. By successfully completing the STAR program, participants earn 40 credit hours in coursework and demonstrate a comprehensive understanding of research administration. Magdalena joins OBGYN staff **Carrie Westphal** and **Ermira Hasanbelliu** in having achieved the STAR certificate. Learn more at [star.wustl.edu/education/](http://star.wustl.edu/education/).



Magdalena at the Recognition Gala on June 1st.

# PERSONNEL Spotlight

**Peinan Zhao, PhD**  
Assistant Professor  
CRepHS



**H**ave you ever been curious about why a physics background, combined with a statistician mindset, is beneficial in the realm of obstetrics and gynecology research? Maybe the thought never crossed your mind, but it would if you met our next personnel spotlight nominee that has been with our department for more than six years. Let's get to know Peinan Zhao.

Dr. Peinan Zhao is very interested in new technology, from imaging tools and wearable devices to AI modeling and predictions. His Ph.D. in Molecular Biophysics is typically geared towards the imaging aspects of wearable devices and ultrasounds, but he's a translational researcher that loves bridging his skillset for new developments.

Dr. Zhao very clearly remembers the moment he fortuitously glanced at a dataset from an activity watch and thought, "I'm so excited about this – I have to study it." He wasn't originally tasked with analyzing the activity watch data, but his passion led to it.

A master's degree in statistics further accentuates his ability to bring a unique perspective to developing and improving computational methods and tools in maternal-fetal health research.

"AI is a very modern route for statistical analysis," states Dr. Zhao. "You feed in a sufficient amount of very complex data and it gives you very good results. But it's through an unknown route. Why does it work, why does it not work? I like to use 'old school' analysis, too, but one thing is not better than the other."

In obstetrics, Dr. Zhao wants there to be additional wearable devices available that can provide good results during pregnancies. He explains that there are cost barriers and technical challenges in several areas, like ultrasound elastography during pregnancy, that he would like to see addressed to aid future clinical studies.

"A lot of collaborations are happening here," he states, "and I want to help make the best impacts toward advancing research related to pre-term birth."

Dr. Zhao's spare time activities include hiking and barbecuing. He also has two girls and jokes that parenting is harder than physics. We wish him continued success in all arenas! ■

“*For me, it's all data, no matter what device or computational method you are using, to predict and evaluate a patient's health.*”

## Did you know?

*Outside of the WashU research world, Peinan mainly uses the first name "Michael."*

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# UPCOMING OPPORTUNITIES

## EVENTS

**Friday, Aug. 25th, 9 a.m.**

[Summer Journal Club](#): Rowan Karvas, PhD  
(Theunissen Lab)

**Friday, Sept. 8th, 9 a.m.**

[CRepHS Seminar](#): Virginia Winn, MD, PhD,  
Stanford University (host: England Lab)

**Friday, Sept. 15th, 9 a.m.**

[CRepHS Seminar](#): Chenyang Lu, PhD, Dept. of  
Engineering (host: Zhao Lab)

**Sept. 18th-22nd**

[National Postdoc Appreciation Week](#)

**Monday, Sept. 25th**

[National Research Administrator Day](#)

**Friday, Sept. 29th, 9 a.m.**

[CRepHS Seminar](#): Sicheng Wang, Dept. of  
Engineering (host: Wang Lab)

**Wednesday, Oct. 4th, 12:15 p.m.**

WashU [Ob/Gyn Town Hall](#)

**Oct. 19th-20th**

WashU 48th Annual [OBGYN Symposium](#)

**Tuesday, Oct. 31st**

Dr. Jacob Probststein Visiting Professor Lecture:  
Ronny Drapkin, MD, PhD, UPenn

**Friday, Nov. 10th, 9 a.m.**

[CRepHS Seminar](#): Liz Mallott, PhD, Dept. of  
Biology (host: England Lab)

## CREPHS SEMINAR SERIES

Join us at the CRepHS Seminar Series held on Fridays, 9:00-10:00 a.m. in the 10th floor A/B conference room of BJCIH. Upcoming seminars are listed above.



*Register for Zoom link here*

## WRITING ACCOUNTABILITY GROUP

The newly formed Writing Accountability Group (WAG) has held meetings on Wednesdays at 3:15 p.m. in the 10 A/B conference room of the BJCIH building. Introductions are made at the beginning of each session, followed by 60-75 minutes of quiet time dedicated to making writing progress. The group has welcomed all WashU personnel working from the BJCIH - 10th floor, and interest-dependent, will continue meeting into the fall semester. Questions? Contact Audrey Johnston, MBA.



### SAVE THE DATE

**Monday, Dec. 4th  
2:00-5:00 p.m.**

Open House Event  
in collaboration with  
the [Center for  
Women's Health  
Engineering](#).

*More info soon!*

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter four)

## Dr. Mullen receives NCI surgeon scientist award

Mary (Maggie) Mullen, MD, PhD, assistant professor of obstetrics and gynecology at Washington University School of Medicine, recently received a National Cancer Institute's (NCI) Early-stage Surgeon Scientist Program (ESSP) award. This award provides Dr. Mullen with training in cancer-related disease and basic/translational research alongside an elite cohort of 11 other surgeon scientists for up to three years. Her research will work to define and target mechanisms of poly (ADP-ribose) polymerase inhibitor-induced platinum chemotherapy resistance in ovarian cancer.

“Being selected for this program is a tremendous opportunity to team up with peers from across the United States to pave the way for further improvements in ovarian cancer research,” states Dr. Mullen. “The support of my amazing senior surgeon scientist mentors exemplifies how a strong mentorship team can elevate early-stage researchers.”



Photo by Matt Miller, WashU School of Medicine.

Maggie Mullen, MD, PhD

[Dr. Mullen](#) began the NCI [Early-stage Surgeon Scientist Program](#) in July 2023. The grant is funded through an administrative supplement to the Alvin J. Siteman Cancer Center (SCC) at Washington University and Barnes-Jewish Hospital's NCI-designated Cancer Center Support Grant. ■

## AWARDS & APPOINTMENTS

- **Kaci Martin**, a graduate researcher in the Frolova Lab, was elected in April as President of WashU's [Women in STEM](#) (WiSTEM) network for the 2023-2024 term. Additionally, at the DBBS 50<sup>th</sup> Anniversary Celebration, Kaci and her WiSTEM team won the “Student Group Poster Award.” Kaci is 3rd year student in [the DBBS Molecular Genetics and Genomics](#) Ph.D. program.



Photo: @KaciTMartin, “Representing WiSTEM...”, X (fka Twitter), April 29, 2023.

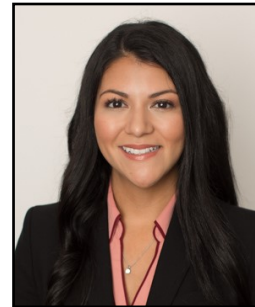
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# SCIENTIFIC ACCOMPLISHMENTS

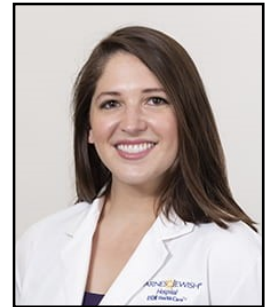
(from fiscal quarter four)

## AWARDS & APPOINTMENTS *...continued*

- At the 37th annual [Dr. David Rothman Research Symposium](#) in April, Ob/Gyn residents, fellows, and students delivered presentations to more than 100 peers, faculty, staff, and collaborators. Researchers from across divisions, departments, and schools at WashU came together to demonstrate basic, clinical, and translational work aimed at advancing knowledge and improving care in obstetrics and gynecology and reproductive health. Congratulations to the following researchers who represented CRepHS and were awarded at the event: **Dr. Amanda Compadre** (Mullen Lab) received the Dr. David Rothman Fellow Research Project Award, and **Dr. Patty Strutz** (England Lab) won the Dr. David Rothman Basic Science Award.

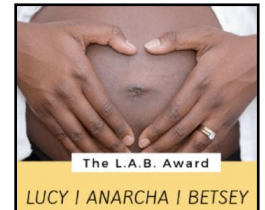


Amanda Compadre, MD



Patty Strutz, MD

- Amanda Compadre, MD** (Mullen Lab) was a recipient of the Department of OB/GYN's Lucy, Anarcha, and Betsey (L.A.B.) Award in April. Her research project title was "Optimizing RAD51 foci as a functional biomarker in high-grade serous ovarian cancer." The [L.A.B. award](#) is named in honor of Lucy, Anarcha, and Betsey—the enslaved women whose sacrifice, without consent, nearly 200 years ago allows surgical repair for women with vesicovaginal fistulas today.



- Juan Ferreira, PhD** (Santi Lab) completed the WUSTL Leadership and Management in Action Program ([L-MAP](#)) in May. Dr. Ferreira met with a cohort of other L-MAP trainees over the course of six weeks to build a leadership, management, and inclusive teamwork skillset. The program is supported by a grant from the Burroughs Wellcome Fund.
- Sarah England, PhD**, was elected to the [American Heart Association](#) Research Funding Subcommittee (National Affiliate), and as a council member to the [Society for Reproductive Investigation](#).



Photo: @Juan\_J\_Ferreira, "LMAP...", X (fka Twitter), May 31, 2023.

## PRESENTATIONS & SPECIAL EVENTS

- Viju Gupta, PhD** (Khabele Lab) presented research on ovarian cancer at the annual meeting of the [American Association for Cancer Research](#) in April.

*Continued on next page...*

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter four)

## PRESENTATIONS & SPECIAL EVENTS *...continued*

- At the [American Society of Andrology](#) annual conference on April 21<sup>st</sup> in Boston, **Celia Santi, MD, PhD**, Associate Professor of Ob/Gyn, was a panelist for the session on “Should I Stay or Should I Go.” The topic was about choices that you confront during your career regarding staying in the US or going back to the country where you were born and raised. Dr. Santi also was a co-moderator for the conference symposium session titled “Role of Cellular Networks in Testicular Functions.” Additionally, **Juan Ferreira, PhD**, of the Santi lab, presented a poster on the [“WHICH-A.R.T.” project](#) that aims to develop a reliable and clinically feasible assay to personalize fertility treatment plans.
- After an invite from Dr. Carmel Martin-Fairey (an England Lab past trainee), **Juan Ferreira, PhD**, with the Santi Lab, gave a guest lecture in April on SLO2.1 channels and their role in regulating uterine excitability to students at Harris-Stowe State University.
- A first place honor was earned by **Amanda Compadre, MD**, for her “Resident Research Presentation” at the annual Research Meeting of the [St. Louis Obstetrical & Gynecological Society](#). At the event in May, Dr. Compadre (mentored by Dr. Maggie Mullen) presented on “RAD51 foci as a biomarker predictive of platinum chemotherapy response in ovarian cancer.”
- Members of the Mullen and Khabele labs attended the Siteman Cancer Center’s [Center for Genome Integrity](#) annual retreat in May. They joined colleagues from WashU and Saint Louis University to network and discuss all things genome integrity. **Dr. Amanda Compadre** (Mullen Lab) received an honorable mention for the best oral presentation, **Olivia Graham and Jeimmy Rodriguez** (Tissue Bank) received an honorable mention for the best poster presentation, and **Viju Gupta, PhD**, (Khabele Lab) also presented.
- Dineo Khabele, MD**, was part of a panel discussion on “designing your academic career in GynOnc” at the [Western Association of Gynecologic Oncologists](#) (WAGO) 2023 Annual Meeting in Monterey, California, June 14-17.



Co-moderators Drs. Santi (left) and Aluko at an ASA annual conference session.



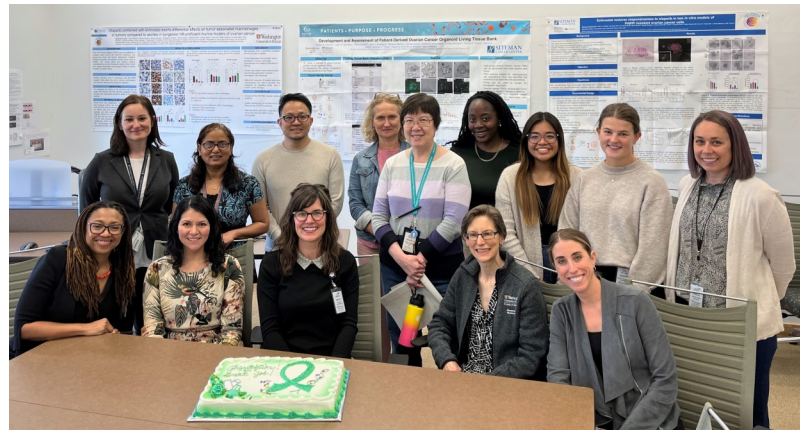
Members of the Mullen Lab, pictured in 2023, from left: Amanda Compadre, MD, Jeimmy Rodriguez, Maggie Mullen, MD, Olivia Graham, and Carmen Sanchez, MD.

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter four)

## PRESENTATIONS & SPECIAL EVENTS ...continued

- In May, the WashU [Gynecologic Oncology Tissue Bank](#) celebrated collecting its 100th tissue sample for bench-to-bedside research endeavors. Along with this notable achievement in specimen collection, the [labs](#) of **Dr. Dineo Khabele** and **Maggie Mullen** have instituted a newly organized process for collecting and managing samples, and are developing research on patient-derived organoids. [Read more here.](#)
- CRepHS celebrated its recent graduates at Washington University's commencement ceremonies in May. Congratulations to MSTP graduate **Dr. Manasi Malik** (England Lab), and DBBS graduates **Dr. Max Lyon** (Santi Lab) and **Dr. Emilee Kotnik** (Fuh Lab formerly at WashU).
- During the last academic quarter, **Sarah England, PhD**, served on the "Navigating Academia" career panel during the WashU Association of Black Biomedical Graduate Students (ABBGs) INSPIRE Conference. Dr. England also presented at: the WUSM MSTP 26th Annual Retreat, on "Policy and Medicine"; the Center for Biological Rhythms and Sleep 2nd Annual Symposium on "Circadian rhythm disruption and adverse pregnancy outcomes"; Frontiers in Reproduction, Marine Biological Laboratories on "Parturition and Preterm Birth"; the Center for Research on Reproduction and Women's Health, Perelman School of Medicine, U. of Pennsylvania, on the "The Timing of Pregnancy"; and as a career panelist during the "Summer Science Seminar Series," held by WUSM Office of DEI, in which undergraduates and postbacs conducting research at WashU learned about her career path.



CRepHS personnel and collaborators celebrated the Khabele and Mullen Labs on May 2nd.



From left: Drs. Fuh, Kotnik, England, Malik, Santi, and Lyon.



Dr. England (second from left) shared advice about career paths and words of wisdom during an ABBGS conference.

Photo: @WashUMedODEI, "Excellent advice...", X (fka Twitter), April 20, 2023.



# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter four)

## PUBLICATIONS\*

- [Electromyometrial Imaging of Uterine Contractions in Pregnant Women](#). Wang H, Wen Z, Wu W, Sun Z, Wang Q, Schwartz AL, Cuculich P, Cahill AG, Macones GA, **Wang Y**. J Vis Exp. 2023 May 26;(195). doi: 10.3791/65214. PMID: 37306431.
- [Heterogeneity in management of category II fetal tracings: data from a multihospital healthcare system](#). Thayer SM, Faramarzi P, Krauss MJ, Snider E, Kelly JC, Carter EB, **Frolova AI**, Odibo AO, Raghuraman N. Am J Obstet Gynecol MFM. 2023 Jul;5(7):101001. doi: 10.1016/j.ajogmf.2023.101001. Epub 2023 May 3. PMID: 37146688.
- [Intrapartum electronic fetal monitoring features associated with a clinical diagnosis of nonreassuring fetal status](#). Rimsza RR, **Frolova AI**, Kelly JC, Carter EB, Cahill AG, Raghuraman N. Am J Obstet Gynecol MFM. 2023 Jun 26;5(9):101068. doi: 10.1016/j.ajogmf.2023.101068. Epub ahead of print. PMID: 37380056.
- [Neuroinflammation in the Amygdala Is Associated With Recent Depressive Symptoms](#). Zhang W, Rutlin J, Eisenstein SA, **Wang Y**, Barch DM, Hershey T, Bogdan R, Bijsterbosch JD. Biol Psychiatry Cogn Neurosci Neuroimaging. 2023 May 9:S2451-9022(23)00119-2. doi: 10.1016/j.bpsc.2023.04.011. Epub ahead of print. PMID: 37164312.
- [Sphingosine 1-Phosphate Activates S1PR3 to Induce a Proinflammatory Phenotype in Human Myometrial Cells](#). Saurabh K, Mbadhi MN, Prifti KK, Martin KT, **Frolova AI**. Endocrinology. 2023 Apr 17;164(6):bqado66. doi: 10.1210/endo/bqado66. PMID: 37120767; PMCID: PMC10201982.

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\*Labs in bold.



# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter four)

## PUBLICATIONS\* *...continued*

- [Roe v Wade, Dobbs, and the Future of Graduate Medical Education](#). Klingensmith ME, Gosman GG, **Khabele D**, Brinkmann BS. J Grad Med Educ. 2023 Jun;15(3):407-410. doi: 10.4300/JGME-D-23-00279.1. Epub 2023 Jun 14. PMID: 37363655; PMCID: PMC10286922.
- [The effect of Dnaaf5 gene dosage on primary ciliary dyskinesia phenotypes](#). Horani A, Gupta DK, Xu J, Xu H, Carmen Puga-Molina LD, **Santi CM**, Ramagiri S, Brennan SK, Pan J, Koenitzer JR, Huang T, Hyland RM, Gunsten SP, Tzeng SC, Strahle JM, Mill P, Mahjoub MR, Dutcher SK, Brody SL. JCI Insight. 2023 Jun 8;8(11):e168836. doi: 10.1172/jci.insight.168836. PMID: 37104040.
- [The Impact of Cervical Effacement at Time of Amniotomy in Patients Undergoing Induction of Labor](#). Rimsza RR, Kelly JC, **Frolova AI**, Odibo AA, Carter EB, Cahill AG, Raghuraman N. Am J Perinatol. 2023 Jun 19. doi: 10.1055/a-2096-2277. Epub ahead of print. PMID: 37207677.
- [The relationship between maternal anemia and electronic fetal monitoring patterns](#). Beer-mann SE, Watkins VY, **Frolova AI**, Raghuraman N, Cahill AG. Am J Obstet Gynecol. 2023 Apr 20:S0002-9378(23)00249-1. doi: 10.1016/j.ajog.2023.04.018. Epub ahead of print. PMID: 37086877.

\*Labs in bold.



Dineo Khabele, MD, (right) and postdoctoral research associate Yukihide Ota, MD, PhD.

Photo by Matt Miller, WashU School of Medicine.



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# COLLABORATIONS

(from fiscal quarter four)

## NEW AWARD FOR DR. O'BRIEN AND TEAM

CRepHS collaborator Christine O'Brien, PhD, assistant professor of biomedical engineering in the McKelvey School of Engineering and OBGYN, is a co-founder of a startup company developing a biomedical device that enables diagnosis of early hemorrhage. Congratulations to Dr. O'Brien, and her co-founders of Armor Medical, Leonid Shmuylovich, MD, PhD, and Kelsey Mayo, for winning the spring 2023 Global Impact Award and funding from the Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship at WashU. [Read more here.](#)



O'Brien

## COLLABORATOR PROMOTED

At the Washington University in St. Louis Board of Trustees meeting on May 5th, numerous faculty members were appointed with tenure, promoted with tenure or granted tenure. Congratulations to CRepHS collaborator [Kristine M. Wylie, PhD](#), associate professor of pediatrics at the School of Medicine, on her recent promotion with tenure.



Wylie

## GOING GREEN AT THE COLLABORATION MEETING



From left, Savannah Blackwell, Ruth Gill, Dr. Sarah England, and Kaci Martin discuss, inspect and determine the best plants for their offices and homes at the monthly CRepHS Collaboration meeting in April.

## SOCIAL CONNECTIONS



X (formerly 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-IH 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

**T**he [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.