

# CRepHS Newsletter

February 2023

## LIVING LIFE TO ITS FULLEST

Dear CRepHS personnel and associates,

“Life need not be easy, provided only that it is not empty.” -Lise Meitner, physicist

I found this quote from Dr. Meitner to be a fitting analogy to our scientific research. The pages of this newsletter are certainly not void of research accomplishments, and this is due to our Center’s abounding hard work and collaborations.

It has been a year since the relaunch of the CRepHS Newsletter, and your successes shared within each issue are a resplendent testament of your dedication to the field of reproductive health sciences.

I hope you continue to enjoy reading these quarterly newsletters that are filled with updates on our research, events, team members and more.

*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: May 2023*

# PERSONNEL UPDATE

## NEW TEAM MEMBERS

**NICOLE DALLAS**

Non-Appointee, Frolova Lab



DALLAS

**RUTH GILL**

Research Lab Supervisor, Frolova Lab



GILL



MBADHI

**MAGDALEENA MBADHI, MD**

Postdoc Research Associate, Frolova Lab



MUSE



OTA

**HALEY MUSE**

Research Technician II, Mullen Lab

**YUKIHIDE OTA, MD, PHD**

Postdoc Research Associate, Khabele Lab



PACHECO



SHYMANI

**CARMEN SANDOVAL PACHECO, PHD**

Postdoc Research Associate, Mullen Lab

**NEHA SHYMANI**

Research Technician I, England Lab

## INSTALLATION CEREMONY



Department Chair and gynecologic oncologist, **Dineo Khabele, MD**, was installed as the Mitchell and Elaine Yanow Professor of Obstetrics & Gynecology on Jan. 21st. Dr. Khabele is pictured at the event with lab members, from left, Tyler Woodard, MD, Bisi Fashemi, PhD, Viju Gupta, PhD, and Wendy Zhang.

[Read more about the ceremony here.](#)

# PERSONNEL Spotlight

**Maximillian Lyon**  
Pre-doctoral Researcher  
Santi Lab



The Center for Reproductive Health Sciences would not be the same without the dedication and hard work of its trainees. These trainees, ranging from high school students to postdocs, provide a bustle of energy in the everyday processes of the labs and also at special events. Currently, one of those hard workers is Maximillian (Max) Lyon, a PhD candidate in the Molecular Cell Biology program, Division of Biology and Biomedical Sciences (DBBS) at WashU, and a trainee in the lab of Celia Santi, MD, PhD.

Max's interest in scientific research was strongly influenced by his family's history of genetic disorders, including Cystic Fibrosis and Lynch syndrome. He found himself very interested in looking into the known and unknown of these disorders, and a feeling of concern arose based on the gaps in knowledge he saw. "Basic science focuses on filling in these holes in our understanding, and building a solid foundation for translational research to work on cures and treatments," remarks Max. "Everyone that I have worked with in CRepHS has this similar drive to answer and discover the unknown and broaden the pathways for future research."

"Everyone that I have worked with in CRepHS has this similar drive to answer and discover the unknown and broaden the pathways for future research."

-Max Lyon, Pre-doc

## Did you know?



Max has a collection of more than 30 board games — ask him about his favorites when you're looking to have a fun game night with your friends and family!

From presenting his science at conferences, to seeing what others at the cutting-edge of his field are doing, Max has appreciated the opportunities to develop as a person and as a scientist at WashU. In the lab of Dr. Santi, Max currently studies processes that allow sperm, stored in a dormant state in the epididymis, activate in the female tract and ultimately fertilize an egg. "Specifically," he explains, "the membrane of sperm cells become more negative (hyperpolarize) as they move through the female tract. We have a collaboration with two labs at Vanderbilt University to find novel inhibitors for this process that we hope can tell us more about previously-unknown causes of male infertility and could lead to the development of non-hormonal contraceptives."

Outside of his roles as student, researcher, husband and pet-parent, Max has been involved in many leadership positions on the WashU campus. These include being a board member for Connections, ProSPER, and Future Educators; he has also volunteered in the Young Scientist Program within DBBS. As Max nears graduation, he is looking for postdoc positions that will allow him to gain more teaching experience, with an ultimate goal of becoming a faculty member at a primarily undergraduate institution so as to "introduce bright young minds to science and get them interested in research just as it happened with me." ■

# UPCOMING OPPORTUNITIES

## SPECIAL EVENTS

**March 21st-25th** >>> Annual meeting of the [SRI](#)

**March 31st** >>> Deadline to complete WashU Mandatory Harassment Training

**Wednesday, April 5th, 12:15 p.m.** >>> WashU OBGYN Town Hall

**Wednesday, April 26th, 8 a.m. to 5 p.m.** >>> [Rothman Research Symposium](#)

## CRepHS SEMINAR SERIES

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

[Zoom link & registration](#)



DATE	SPEAKER	AFFILIATION	HOST/LAB
March 3rd	<a href="#">Valene Garr Barry, PhD</a>	WashU—OBGYN	Zhao
March 10th	<a href="#">Kimberly Kline, PhD, MPH</a>	University of Geneva	Kau
March 31st	<a href="#">Polina Lishko, PhD</a>	WashU—Cell Biology & Physiology	Santi
April 7th	<a href="#">Sarah Cilvik, MD, PhD</a>	Wake Forest University	Frolova
April 14th	Sadie Wignall, PhD	Northwestern University, Chicago	Santi
April 21st	Swati Shree, MD	University of Washington Medical Center	England (SRI)

## 37th Annual Rothman Research Symposium

Research training is incorporated throughout the residency program, and each resident is required to complete one publishable clinical or basic science research project. Working with a member of the full-time faculty, residents select and carry out this project over the course of their residency, culminating with a presentation at the [David Rothman Resident Research Symposium](#) held annually in the spring.

Deadlines to know... Friday, March 24th: Abstracts due to [Audrey Johnston](#) in electronic format; Friday, April 21st: Send PowerPoint to [Kevyana Battle](#).

Photo credit: Matt Miller/Washington University School of Medicine

# UPCOMING OPPORTUNITIES

## FUNDING

- [CRepHS Travel Award](#)—to support travel-related expenses to national or international scientific conferences incurred by the CRepHS undergraduate, graduate, predoctoral and postdoctoral trainees.
- [Big Ideas](#) grant funding competition, for all individuals affiliated with BJC HealthCare and/or the Washington University School of Medicine (WUSM); letter of intent due **March 15th**.
- [Opportunity Fund](#) grants from Missouri Foundation for Health; Open call for concept papers due **March 23rd**.
- [Collaboration Initiation Grants](#) (CIG) from the McKelvey School of Engineering; due **April 3rd**.
- [Research awards](#) from the Foundation for Women's Wellness (FWW) and [FFW Fellowship Awards](#); due **April 7th**.
- [W.M. Keck Postdoctoral Fellowship awards](#), administered by WUSTL Office of Postdoctoral Affairs; due in **April**.
- **Recurrent:** <https://obgyn.wustl.edu/research/resources-funding/>

## JOBS

- [Research Assistant](#) — Santi lab
- View all current job opportunities at <https://jobs.wustl.edu/>.

## SCIENCE COMMUNICATION

- **February 28th** at 11:59 p.m. EST is the deadline to submit your abstract for the Society for the Study of Reproduction's (SSR) 2023 Annual Conference. They welcome abstracts reporting new basic, clinical, and/or translational research findings in the field of reproduction. The annual meeting, "[Reproductive Sciences: From Innovation to Impact](#)," takes place in July in Ottawa, Canada.
- Authors interested in being part of eLife's Special Issue (showcasing research in reproductive biology and medicine) can use eLife's submission system. Submissions for the [special issue on reproductive health](#) close on **Sept. 30th**.

## SCIENTIFIC GRAPHIC DESIGN SERVICE

[Anthony Bartley](#), is the scientific graphics editor for the WashU Department of Ob/Gyn. His goal is to help all members of the department visually enhance and strengthen the presentation of their work. Learn all about the services that Anthony provides by going to <https://obgyn.wustl.edu/research/resources-funding/scientific-graphic-design-service/>.

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter two)

## AWARDS & APPOINTMENTS

- **Celia Santi, MD, PhD**, recently received a two-year grant from the Bill & Melinda Gates Foundation. The \$435,000 award will support her lab's efforts in screening and characterizing a new class of female-controlled non-hormonal contraceptive agents using in vitro and in vivo assays. Dr. Santi's research project is titled, "SLO3 inhibitors: a new class of non-hormonal female contraceptives." [Read more here.](#)



Celia Santi, MD, PhD



**Santi Lab members.** Photo credit: [Anthony Bartley/Washington University School of Medicine](#)

- **Dr. Toni Frolova's** research, titled "Role of sphingosine-1-phosphate ("S1P") in preterm birth" has earned a 2022 [Basil O'Connor Starter Scholar Research Award](#) from March of Dimes. The award is for \$150,000 over two years. In a recent March of Dimes [research newsletter](#), Emre Seli, Chief Science Officer, states that the research of awarded investigators "will help bring critical discoveries from laboratories to patient bedsides and advance our understanding of medical conditions that impact moms and babies."
- **Dineo Khabele, MD**, was awarded an NIH Research Conference Grant (R13), in December, for her project titled "SRI Meeting: Training and Development in the Reproductive Sciences." The award will provide funding to cover travel costs for seven trainees and early stage investigators to attend the annual [Society for Reproductive Investigation \(SRI\) meeting](#) and for an established investigator to attend the meeting where he/she will present an invited Distinguished Presidential plenary lecture.



**Dineo Khabele, MD, (left) and Wendy Zhang.**

Photo credit: [Matt Miller/Washington University School of Medicine](#)

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter two)

## PRESENTATIONS

- **Sarah England, PhD**, presented her work titled “Pores, Pregnancy, and Policy: Adding Distinctive Chapters to your Story” at the 2022 Reproductive Scientist Development Program (RSDP) Retreat on October 8th in Chicago.
- Clinical researchers under the direction of Principal Investigator **Yong Wang, PhD**, gave poster and oral [presentations](#) at the [Biomedical Engineering Society \(BMES\)](#) Annual meeting in October 2022. Ob/Gyn engineering collaborator Dr. Christine O’Brien also presented.



Dr. Wang (far right) and lab members. Photo credit: [Anthony Bartley](#)/Washington University School of Medicine

- In November 2022, **Dr. Celia Santi** presented for the [Society for the Study of Reproduction](#) Webinar Series “Opening Gates: New Methods and Approaches for Effective Contraception in Both Sexes.” The title of her talk was: Targeting the sperm-specific K<sup>+</sup> channel SLO3 for non-hormonal contraception.

## PUBLICATIONS\*

- [Community access to primary care is an important geographic disparity among ovarian cancer patients undergoing cytoreductive surgery.](#) Zamorano AS, Mazul AL, Marx C, **Mullen MM**, Greenwade M, Stewart Massad L, McCourt CK, Hagemann AR, Thaker PH, Fuh KC, Powell MA, Mutch DG, **Khabele D**, Kuroki LM. Gynecol Oncol Rep. 2022 Oct 3;44:101075. doi: 10.1016/j.gore.2022.101075. PMID: 36217326; PMCID: PMC9547182.

Continued on next page...

\*Labs in bold.

# SCIENTIFIC ACCOMPLISHMENTS

(from fiscal quarter two)

## PUBLICATIONS\* *...continued*

- [One-Step Compared With Two-Step Gestational Diabetes Screening and Pregnancy Outcomes: A Systematic Review and Meta-analysis](#). Brady M, Hensel DM, Paul R, Doering MM, Kelly JC, **Frolova AI**, Odibo AO, Barry VG, Powe CE, Raghuraman N, Tuuli MG, Carter EB. *Obstet Gynecol*. 2022 Nov 1;140(5):712-723. doi: 10.1097/AOG.0000000000004943. Epub 2022 Oct 5. PMID: 36201772.
- [The Dobbs v Jackson Women's Health Organization Supreme Court Decision-Concerns, Challenges, and Consequences for Health Care](#). Schreiber CA, **Khabele D**, Gehrig PA. *JAMA Surg*. 2022 Nov 1. doi: 10.1001/jamasurg.2022.5714. Epub ahead of print. PMID: 36318215.
- [Vaginal cleansing before unscheduled cesarean delivery to reduce infection: a randomized clinical trial](#). Temming LA, **Frolova AI**, Raghuraman N, Tuuli MG, Cahill AG. *Am J Obstet Gynecol*. 2022 Nov 30:S0002-9378(22)02206-2. doi: 10.1016/j.ajog.2022.11.1300. Epub ahead of print. PMID: 36462539.
- [Reduced expression in preterm birth of sFLT-1 and PlGF with a high sFLT-1/PlGF ratio in extracellular vesicles suggests a potential biomarker](#). Hussein S, Ju W, Pizzella S, Flory M, Chu C, **Wang Y**, Zhong N. *Front Endocrinol (Lausanne)*. 2022 Dec 22;13:1024587. doi: 10.3389/fendo.2022.1024587. PMID: 36619545; PMCID: PMC9814499.
- [CCNE1 and survival of patients with tubo-ovarian high-grade serous carcinoma: An Ovarian Tumor Tissue Analysis consortium study](#). Kang EY, ... **Khabele D**, ...Kobel M. *Cancer* 2022 Dec 26. doi: 10.1002/ncr.34582. Epub ahead of print. PMID: 36572991.
- [Association between Maternal Serum Lipids and Intrapartum Oxytocin Requirements during Labor Induction and Augmentation](#). **Frolova AI**, Prifti KK, Raghuraman N, Carter EB, **England SK**, Stout MJ. *Am J Perinatol*. 2022 Dec 27. doi: 10.1055/a-1979-8577. Epub ahead of print. PMID: 36384236.

\*Labs in bold.



Scales; Fetus; Ovarian cancer.  
Images by: Anthony Bartley/  
Washington University School of Medicine



# A FEW CREPHS CELEBRATIONS

## OCTOBER, NOVEMBER, AND DECEMBER 2022



Tyler King, DO, by the "Best" decorated door (Frolova Lab) at Halloween; and Deborah Frank, PhD, by her office door.



Kirsten Biggs at her CRepHS baby shower.



The CRepHS Holiday Celebration.



## 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-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

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.