

# Welcome to the Department of Biochemistry and Molecular Biophysics

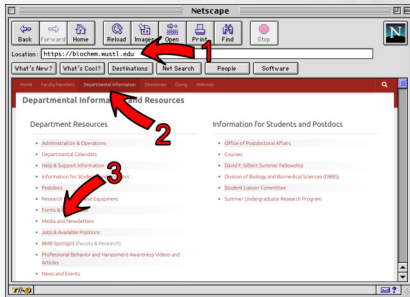


Washington University in St. Louis  
School of Medicine

<https://biochem.wustl.edu>

# View these slides online!

- 1) Go to **biochem.wustl.edu**
- 2) Click **Departmental Information**
- 3) Click **Media and Newsletters**
- 4) Click **Display TV Announcements**



**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine

# March Publication



Min Kyung Shinn, **Sumit K. Chaturvedi**, **Alexander G. Kozlov**, & **Timothy M. Lohman**

***Allosteric effects of *E. coli* SSB and RecR proteins on RecO protein binding to DNA***

Nucleic Acids Res. 2023 Mar 21;51(5):2284-2297. doi: 10.1093/nar/gkad084. (2023)

View online!  
[biochem.wustl.edu](https://biochem.wustl.edu)

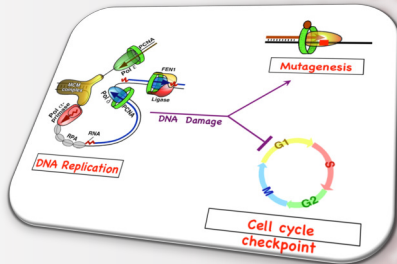
**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine

# Spotlight on Research

The **Burgers Lab** studies DNA replication and DNA damage response in eukaryotic cells. Using yeast as a model organism, the lab integrates the biochemical analysis of DNA-protein interactions in purified model systems with the genetic analysis of targeted yeast mutants. Specific areas of interest are lagging strand DNA replication and Okazaki fragment maturation, damage induced mutagenesis, and DNA damage cell cycle checkpoints.

Right: DNA replication fork and Okazaki fragment maturation



See more research:  
[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis • School of Medicine



## The Modern Counseling Solution

**Take the first step towards leading a healthy,  
happy life anywhere, anytime, any place.**

NexGen is a FREE and CONFIDENTIAL benefit provided by your university to help you overcome your personal challenges and emotional stressors. Now, you can start counseling requests via text message, live chat, or by using the NexGenEAP mobile app.

Counseling services include:



- Immediate Connection to a Mental Health Professional



- Mental health counseling for issues like depression, anxiety, grief, stress, and work related challenges



- Up to 6 sessions of counseling for each unique issue, every year



- Access to free in-person, telephonic, or video sessions with a counselor based on the challenge you are experiencing

---

**Get Connected with a Mental Health Professional  
in more ways than ever before**



Text or Call  
1.800.327.2255



Live Chat Online at  
[www.nexgeneap.com](http://www.nexgeneap.com)



Use the NexGenEAP  
Mobile App

**Congratulations to Jerry Wei and Garrett Ginell for being selected for the  
2022 MilliporeSigma Fellowship**



**Lianjie "Jerry" Wei** is a third-year graduate student in the Biochemistry, Biophysics, and Structural Biology (BBSB) program. He is currently working in the Laboratory of Dr. Natalie Niemi in the Department of Biochemistry and Molecular Biophysics to complete his Ph.D. studies. His research is focused on understanding how protein post-translational modifications regulate mitochondrial organellar homeostasis.

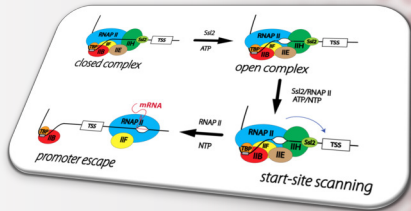


**Garrett Ginell** is a fourth-year graduate student in the Biochemistry, Biophysics, and Structural Biology (BBSB) program. He is completing his Ph.D. thesis work in the lab of Dr. Alex Holehouse (Department of Biochemistry and Molecular Biophysics), where he is applying and developing theoretical and computational methods to understand how chemical features encoded in intrinsically disordered proteins determine their propensity to interact with one another.

Visit [biochem.wustl.edu/news](https://biochem.wustl.edu/news) to read more!

# Spotlight on Research

The **Galburt Lab** strives to understand the physical mechanisms of transcription initiation and other important DNA-protein interactions. More specifically, we use a variety of single-molecule and ensemble biophysical techniques including both optical and magnetic tweezers and fluorescent microscopy to investigate how the assembly of initiation complexes on gene promoters leads to DNA unwinding and transcription. Our work is currently focused on the mechanisms of basal transcription initiation in Eukaryotes and on factor-regulated transcription in *Mycobacterium tuberculosis*.



See more research:  
[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis • School of Medicine

*For those chasing first-in-class therapeutics...*



## Center for Drug Discovery

High Throughput  
Screening

Medicinal Chemistry

Pharmacokinetics



<https://cdd.wustl.edu/>



# BMB Support

**Computer not working?  
Not getting email on your smartphone?**

**We are here to help with the many computing issues that may pop up in your day-to-day operations.**



**Support email: [support@biochem.wustl.edu](mailto:support@biochem.wustl.edu)**

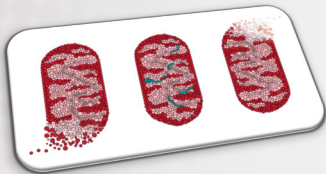
**Support website: [BMBSupport.wustl.edu](http://BMBSupport.wustl.edu)**

**Just send us an email or visit our website and click on \*Request Support\* to get help!**

**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine

# Spotlight on Research




The **Niemi Lab** investigates how mitochondria are built, regulated, and maintained across physiological contexts. We blend biochemistry, systems biology, and physiology to understand mechanisms of mitochondrial regulation and how they influence metabolism and organellar function. Using insights gained from our molecular studies, we aim to understand how mitochondrial dysfunction contributes to mammalian pathophysiology, with the long-term goal of translating our discoveries into new therapeutic options to restore mitochondrial function in human disease.

See more research:

[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine

# Back Up Your Stuff!

## Are your files backed up?

If you are not keeping your files on a network file server, running a local backup client, or utilizing cloud storage, then it is possible that your files are **not** backed up!

**Want to make sure your data is backed up?  
We provide several backup solutions.**

**[BMBSupport.wustl.edu/backups](http://BMBSupport.wustl.edu/backups)**



OneDrive



Retrospect



CODE42

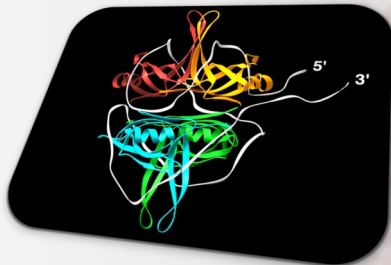
**Department of Biochemistry and Molecular Biophysics**



Washington University in St. Louis • School of Medicine


# Spotlight on Research

Research in the **Lohman Lab** focuses on obtaining a molecular understanding of the mechanisms of protein-nucleic acid interactions involved in DNA metabolism, in particular, DNA motor proteins (helicases/translocases) and single stranded DNA binding proteins. Thermodynamic, kinetic, structural and single molecule approaches are used to probe these interactions at the molecular level.



See more research:  
[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine



**Are you paid **monthly**?**

**Please remember that your **time report** is  
**due by the 5th of each month.****

# HAVING ISSUES AT WORK? WE'RE HERE TO HELP.

Contact any of the following for help

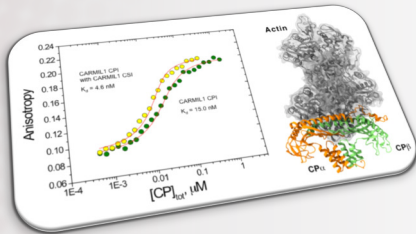
Jessica Kennedy – Title IX Director, [jwkennedy@wustl.edu](mailto:jwkennedy@wustl.edu), 314-935-3118

Jessica Kuchta-Miller – Staff/Postdoc/Graduate Student Ombuds, 314-379-8110

Karen O'Malley – Medical Student Ombuds, 314-660-2089

Jim Fehr – Faculty Ombuds, 314-660-2089

# Spotlight on Research



The **Cooper Lab** is interested in how the actin filaments in cells assemble and how that assembly controls cell shape and movement. One focus is an actin-binding protein called "capping protein," which caps one end of the actin filament. Capping protein is in turn regulated by intrinsically disordered regions of the CARMIL family of proteins, which exhibit positive linkage in their binding interactions.

See more research:  
[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

Department of Biochemistry and Molecular Biophysics



Washington University in St. Louis • School of Medicine

# December Publication



Zev J. Greenberg, Darlene Monlish, Luana Chiquetto Paracatu, Qian Dong, Michael P. Rettig, Nate Dee Roundy, Rofaida Gaballa, **Weikai Li**, Wei Yang, Cliff J. Luke, & Laura Schuettpelz

***The tetraspanin CD53 protects stressed hematopoietic stem cells via promotion of DREAM complex- mediated quiescence***

Blood. 2022 Dec 21;blood.2022016929. doi: 10.1182/blood.2022016929. (2022)

View online!  
[biochem.wustl.edu](https://biochem.wustl.edu)

**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine



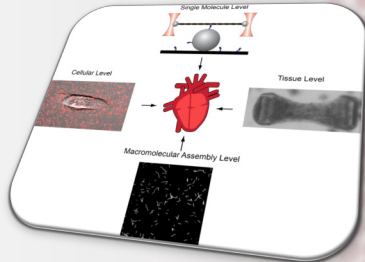
# Holiday Schedule

Holiday	Day Observed	Date Observed at WashU
Martin Luther King, Jr.	Monday	January 16 <sup>th</sup> , 2023
Memorial Day	Monday	May 29 <sup>th</sup> , 2023
<b>Independence Day</b>	<b>Tuesday</b>	<b>July 4<sup>th</sup>, 2023</b>
Labor Day	Monday	September 4 <sup>th</sup> , 2023
Thanksgiving	Thursday	November 23 <sup>rd</sup> , 2023
Day after Thanksgiving	Friday	November 24 <sup>th</sup> , 2023




# Spotlight on Research

The **Greenberg Lab** focuses on how cytoskeletal motors function in both health and disease. Currently, the lab is studying mutations that cause familial cardiomyopathies, the leading cause of sudden cardiac death in people under 30 years old. The lab uses an array of biochemical, biophysical, and cell biological techniques to decipher how these mutations affect heart contraction from the level of single molecules to the level of engineered tissues. Insights into the disease pathogenesis will guide efforts to develop novel therapies.



See more research:  
[biochem.wustl.edu/spotlight](http://biochem.wustl.edu/spotlight)

**Department of Biochemistry and Molecular Biophysics**

 Washington University in St. Louis • School of Medicine

# BMB SCIENCE FRIDAYS

a forum for new data, new ideas  
and works in progress

**Science Fridays and Happy Hour:  
EVERY FRIDAY, starting at 4PM.**



**Department of Biochemistry and Molecular Biophysics**



Washington University in St. Louis • School of Medicine

# Don't Forget!



**Please keep your lab  
locked if no one is in  
there when you leave.**

**Don't forget your  
keys!**

**Please remember to  
take OFF your gloves  
when leaving the lab.**

