Welcome to the Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis
School of Medicine

https://biochem.wustl.edu
1) Go to biochem.wustl.edu

2) Click Media and Newsletters

3) Click Display TV Announcements
Complementary roles of Pif1 helicase and single stranded DNA binding proteins in stimulating DNA replication through G-quadruplexes.

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)
TEA TIME

for Faculty, Staff, Postdocs & Students

Tuesdays & Thursdays
3:00-4:00 pm

Biochemistry Break Room
201 McDonnell Sciences Building

Coffee, tea and cookies are served.
Shinn M.K., Kozlov A.G., Nguyen B., Bujalowski W.M., & Lohman T.M.

Are the intrinsically disordered linkers involved in SSB binding to accessory proteins?

Congratulations to Melanie Ernst

Melanie Ernst has been elected chair of the 2021 Mechanisms of Membrane Transport GRS.

The GRS is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas.

Congratulations Melanie!
The **Bowman Lab** seeks to understand the distribution of different structures a protein adopts and how this ensemble determines a protein's function. Examples of ongoing research projects include 1) understanding how mutations in the enzyme beta-lactamase change its specificity without changing the protein’s crystal structure, 2) designing allosteric drugs, and 3) developing algorithms for quickly building models of the different structures a protein adopts.

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

Friday, August 23rd

Please join us as we learn about **postdoc opportunities** with the Skandalaris Center and Institute of Clinical and Translational Sciences

**Presentations by:**

Adisa Kalkan  
Project Manager for the TL1 Postdoctoral Program

Thomas Krenning  
Assistant Director of LEAP and Research Innovation

**Location:**  
Schwarz Conference Room (room 00160)  
Maternity Hospital

**Time:**  
Friday, August 23rd at 9am

**Sign up:**  
https://forms.gle/ugg7yoSqPHSuh5rM6

Coffee and pastries provided

Sponsored By:

Washington University Postdoctoral Society

Identification of small molecule enzyme inhibitors as broad-spectrum anthelmintics.

Back Up Your Stuff!

Are you backing up your files?

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

Department of Biochemistry and Molecular Biophysics
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On June 7, 2019, Dr. Josh Rackers was awarded the 2019 Ceil M. DeGutis Prize in Chemical Biology/Medicinal Chemistry.

Dr. Rackers presented his research entitled "HIPPO: A physics-based model for biomolecular interactions".

Mr. Rackers was nominated by his thesis mentor Dr. Jay Ponder. In Dr. Ponder’s lab, Josh’s work focused on using the tools of applied quantum mechanics to predict the behavior and interactions of biological molecules. This work is motivated by a deeply held belief that physics holds the answers to many of biology’s most important problems.

Visit biochem.wustl.edu/events to read more and see photos from the event!
Science Fridays and Happy Hour:
EVERY FRIDAY, starting at 4PM.
June Publication

Nguyen B., Ciuba M.A., Kozlov A.G., Levitus M., & Lohman T.M.

Protein Environment and DNA Orientation Affect Protein-Induced Cy3 Fluorescence Enhancement.

Your BMB ID is used for network files shares, remote VPN access, and BMB WiFi.

You can now change your BMB ID password, reset it if you have forgotten it, or even recover your BMB ID if you don't remember what it is!

Just visit:

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July 23rd, 2019 – **Eric Galburt, PhD**, Associate Professor, Department of Biochemistry and Molecular Biophysics, received a new four year grant award from the National Institute of General Medical Sciences for his research entitled **“Kinetic regulation of mycobacterial transcription”**.
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)
Ordabayev Y.A., Nguyen B., Kozlov A.G., Jia H., & Lohman T.M.

**UvrD helicase activation by MutL involves rotation of its 2B subdomain.**

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Day</th>
<th>Date Observed at WU</th>
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<tr>
<td>Independence Day</td>
<td>Thursday</td>
<td>July 4(^{th}), 2019</td>
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<td><strong>Labor Day</strong></td>
<td>Monday</td>
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<td>November 28(^{th}), 2019</td>
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<td>Friday</td>
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Farmer’s Market

Inside the McDonnell Pediatric Research Building
or
Outside on the Plaza
(weather permitting)

Every Thursday!
10:00 am - 2:00 pm
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
Are you paid monthly?

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

Support website: BMBSupport.wustl.edu

Just send us an email or visit our website and click on *Request Support* to get help!
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)
HAVING ISSUES AT WORK?
WE’RE HERE TO HELP.

Contact any of the following for help

Jayma Mikes, Business Manager, jmikes@wustl.edu, 314-362-0262
John Cooper, Department Head, jcooper11@gmail.com, 314-362-3964
Jessica Kennedy – Title IX Director, jw kennedy@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
Vishnu C. Damalanka, Scott A. Wildman, & James W. Janetka

Piperidine carbamate peptidomimetic inhibitors of the serine proteases
HGFA, matriptase and hepsin