Welcome to the Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis
School of Medicine

https://biochem.wustl.edu
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1) Go to biochem.wustl.edu
2) Click Media and Newsletters
3) Click Display TV Announcements
Meisheng Ma, Mihaela Stoyanova, Griffin Rademacher, Susan K. Dutcher, Alan Brown, & Rui Zhang

Structure of the Decorated Ciliary Doublet Microtubule

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
Singh S.P., Soranno A., Sparks M.A., & Galletto R.

Branched unwinding mechanism of the Pif1 family of DNA helicases.

The work by Dr. Greg Bowman on the Folding@home project was recently featured in the magazine Outlook.

The feature goes into detail about Dr. Bowman’s research and some of the difficulties he faced.

You can visit biochem.wustl.edu/news for a link to the feature!
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!
Sparks J.L., Gerik K.J., Stith C.M., Yoder B.L., & Burgers P.M.

The roles of fission yeast exonuclease 5 in nuclear and mitochondrial genome stability.

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.
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
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October Publication

Alexander G. Kozlov, Min Kyung Shinn, & Timothy M. Lohman

Regulation of Nearest-neighbor cooperative binding of E. coli SSB protein to DNA

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.
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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.

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Science Fridays and Happy Hour: EVERY FRIDAY, starting at 4PM.
November 4th, 2019 – Research by Dr. Carl Frieden appeared on the Alzforum site in the article “Can an ApoE Mutation Halt Alzheimer’s Disease?” One of Dr. Frieden’s previous publications was also cited by the article.

You can visit biochem.wustl.edu/news for a link to the article!
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)
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<thead>
<tr>
<th>Holiday</th>
<th>Day</th>
<th>Date Observed at WU</th>
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<tbody>
<tr>
<td>Thanksgiving Day</td>
<td>Thursday</td>
<td>November 28th, 2019</td>
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<td>Friday after Thanksgiving</td>
<td>Friday</td>
<td>November 29th, 2019</td>
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The Writing Center

Do you need assistance with your writing process?

Are you working on a manuscript for publication, grant, personal statement, or other writing piece?

**The Writing Center** staff are available to help you out! This is a free service provided to all students, faculty, staff, and postdocs.

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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
Are you paid monthly?

Please remember that your time report is due by the 5th of each month.
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)
The Mutation R94C InTNNT2-encoded Troponin T Predisposes to Restrictive Cardiomyopathy and Pediatric Sudden Death Through Impaired Thin Filament Relaxation Resulting in Myocardial Diastolic Dysfunction

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, jwkenndedy@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

*Cryo-EM Structure of Nucleotide-Bound Tel1ATM Unravels the Molecular Basis of Inhibition and Structural Rationale for Disease-Associated Mutations.*

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