Welcome to the Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis
School of Medicine

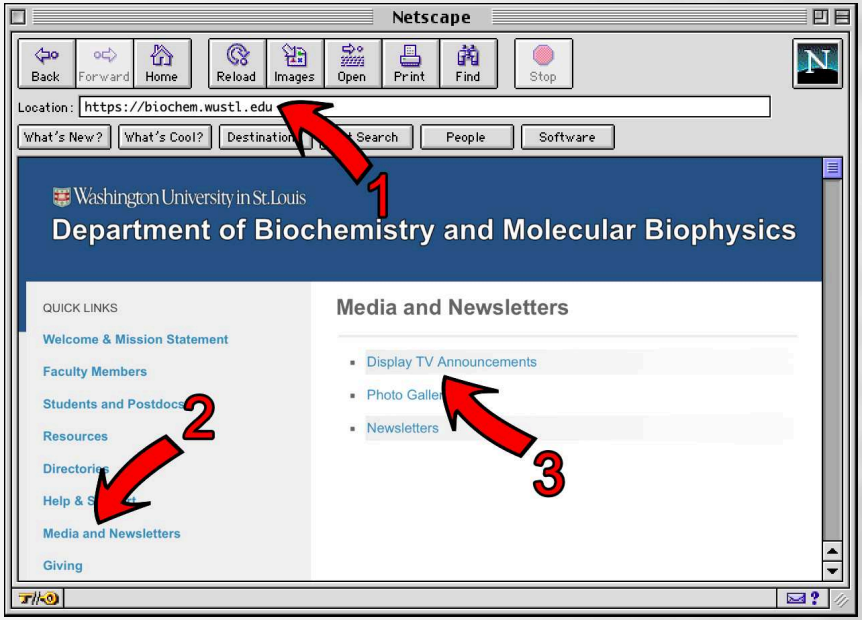
https://biochem.wustl.edu

View these slides online!

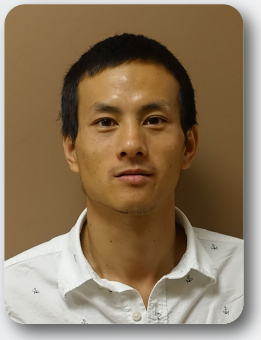
1) Go to **biochem.wustl.edu**

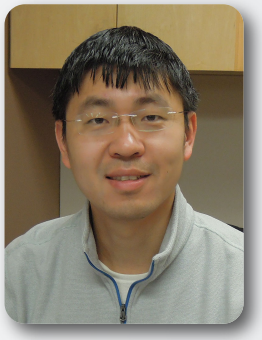
2) Click **Media and Newsletters**

3) Click **Display TV Announcements**



October Publication





Meisheng Ma, Mihaela Stoyanova, Griffin Rademacher, Susan K. Dutcher, Alan Brown, & **Rui Zhang**

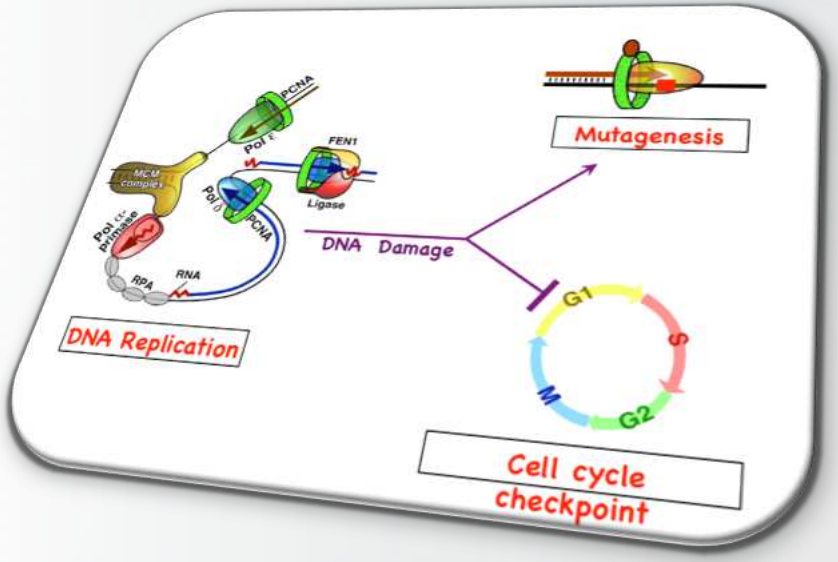
Structure of the Decorated Ciliary Doublet Microtubule

Cell. Volume 179, Issue 4, Pages 909-922.e12. doi: 10.1016/j.cell.2019.09.030 (2019)

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

November Publication




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

Branched unwinding mechanism of the Pif1 family of DNA helicases.

Proc Natl Acad Sci U S A. pii: 201915654. doi: 10.1073/pnas.1915654116. (2019)

Dr. Bowman Featured in Outlook

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!

BMB Support

Computer not working?
Not getting email on your smartphone?

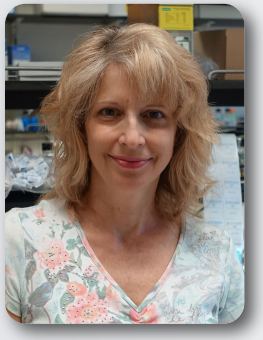
We are here to help with the many computing issues that may pop up in your day-to-day operations.

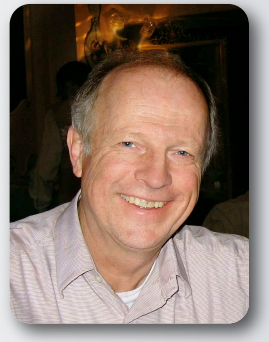
Support email: support@biochem.wustl.edu

Support website: BMBSupport.wustl.edu

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

November Publication



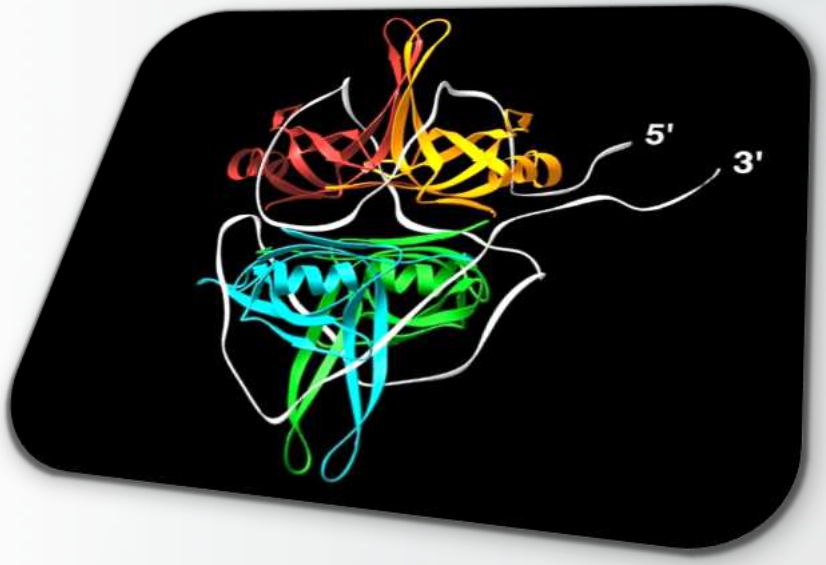
Sparks J.L., **Gerik K.J.**, **Stith C.M.**, **Yoder B.L.**, & **Burgers P.M.**

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

DNA Repair (Amst). 83:102720. doi: 10.1016/j.dnarep.2019.102720. (2019)

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

TEA TIME

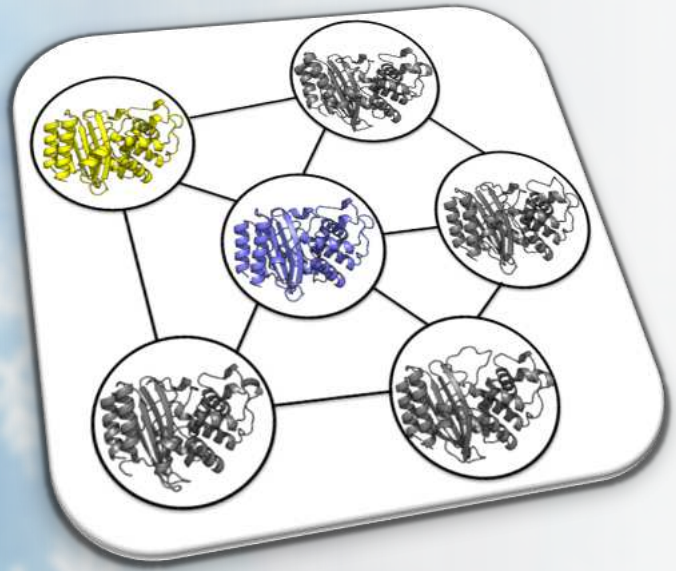
for Faculty, Staff, Postdocs & Students

Tuesdays & Thursdays
3:00-4:00 pm

Biochemistry Break Room
201 McDonnell Sciences Building

Coffee, tea and cookies are served.

Spotlight on Research



The **Bowman Lab** seeks to understand the distribution of different structures a protein adopts and how this ensemble determines a proteins 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

BMB ID Self-Service

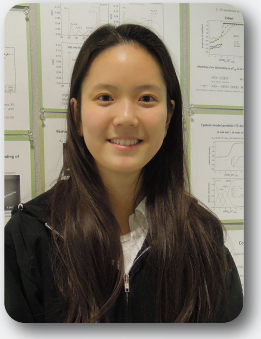
Your **BMB ID** is used for network files shares, remote VPN access, and BMB WiFi.

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:

bmbid.wustl.edu

October Publication


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

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

Biophysical Journal. doi.org: 10.1016/j.bpj.2019.09.047 (2019)

Department of Biochemistry and Molecular Biophysics
Washington University in St. Louis • School of Medicine

View online!
biochem.wustl.edu

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.

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

box OneDrive Retrospect CODE42

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

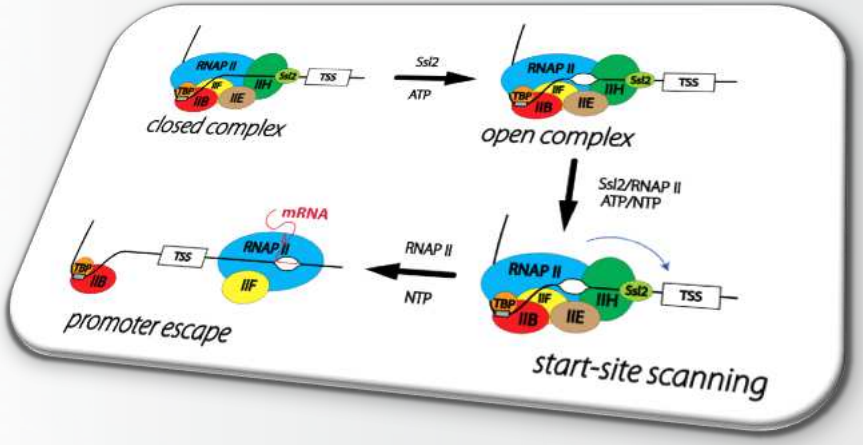
Dr. Frieden Mentioned

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!

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

Holiday Schedule

Holiday	Day	Date Observed at WU
Thanksgiving Day	Thursday	November 28th, 2019
Friday after Thanksgiving	Friday	November 29th, 2019
Christmas Eve	**Tuesday**	**December 24th, 2019**
Christmas Day	**Wednesday**	**December 25th, 2019**
New Year's Eve	Tuesday	December 31st, 2019
New Year's Day	Wednesday	January 1st, 2020

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.

Visit **writingcenter.wustl.edu** for more information!

Farmer's Market

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

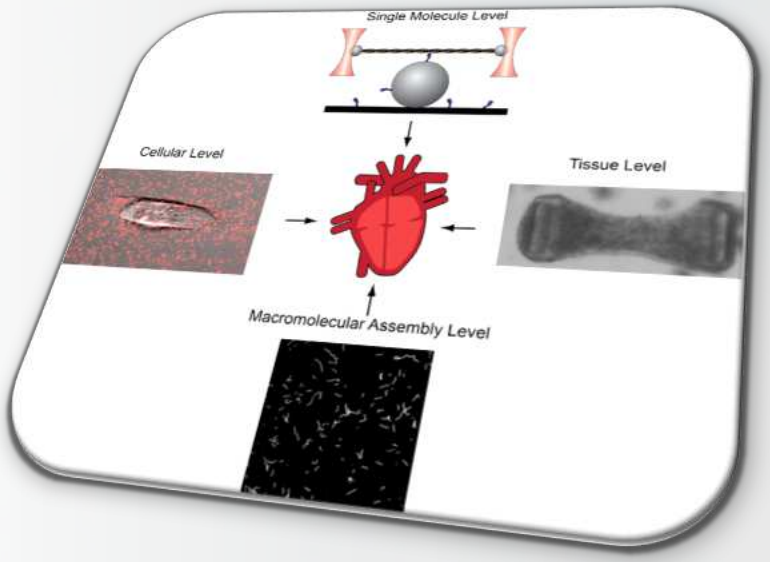
Every Thursday!
10:00 am - 2:00 pm

Are you paid monthly?

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

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

November Publication



Jordan E Ezekian, **Sarah R Clippinger**, **Jackie Garcia**, Susan W Denfield, Aamir Jeewa, William Dreyer, Wenxin Zou, Yuxin Fan, Hugh D Allen, Jeffrey Kim, **Michael Greenberg**, & Andrew P Landstrom

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

American Heart Association, Inc. Circulation. 2019;140:A12139 (2019)

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

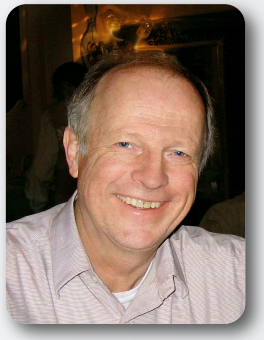
Jessica Kennedy – Title IX Director, jwkennedy@wustl.edu, 314-935-3118

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

November Publication

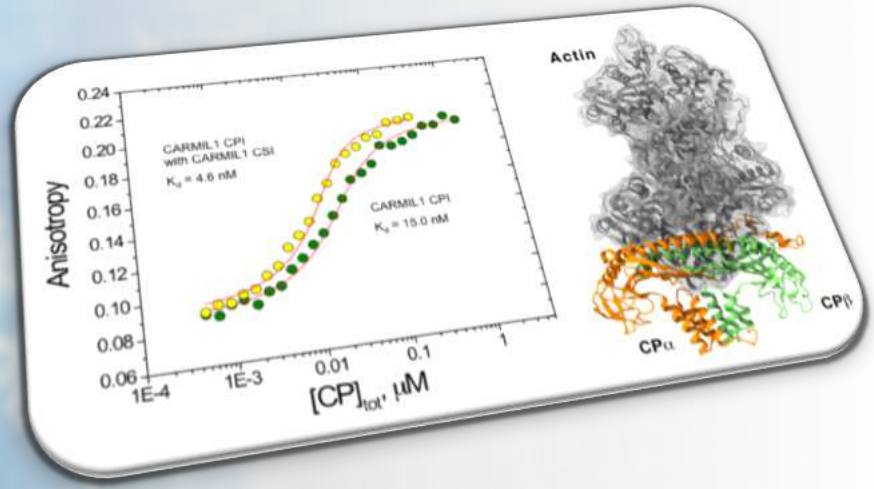


Yates L.A., Williams R.M., **Hailemariam S.**, Ayala R., **Burgers P.**, & Zhang X.

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

Structure. pii: S0969-2126(19)30353-3. doi: 10.1016/j.str.2019.10.012. (2019)

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