

Welcome to the Department of Biochemistry and Molecular Biophysics



Washington University in St. Louis
School of Medicine

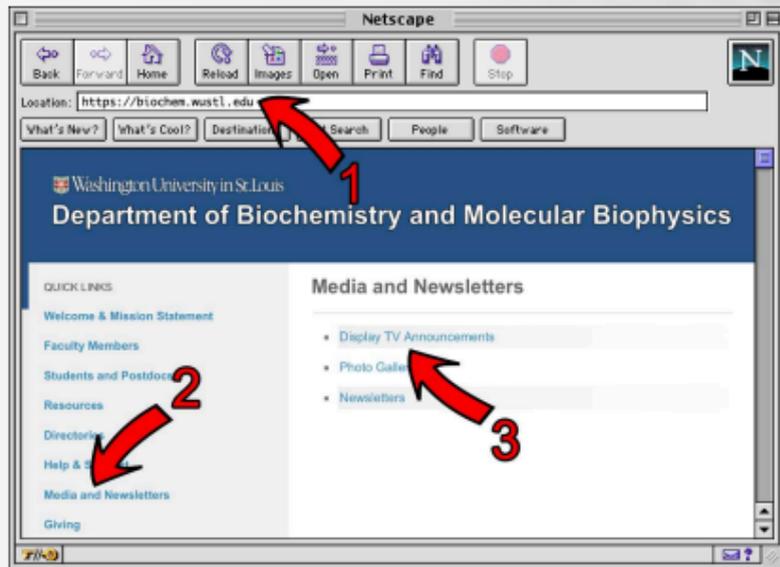
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2) Click [Media and Newsletters](#)

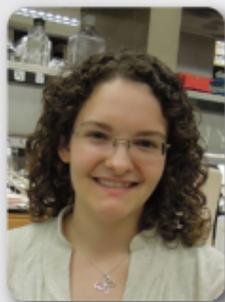
3) Click [Display TV Announcements](#)



Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis • School of Medicine

July Publication



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

Complementary roles of Pif1 helicase and single stranded DNA binding proteins in stimulating DNA replication through G-quadruplexes.

Nucleic Acids Res. pii: gkz608. doi: 10.1093/nar/gkz608. (2019)

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Congratulations to Dr. Elson



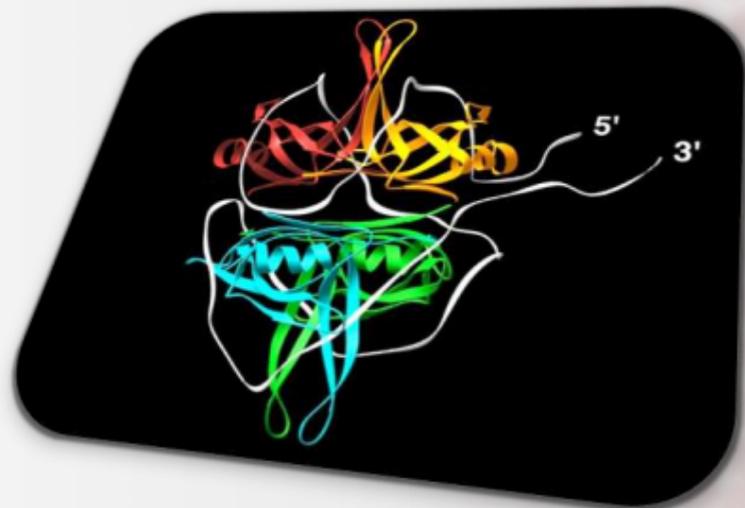
Dr. Elliot Elson will be awarded the 2020 Ignacio Tinoco Award from the Biophysics Society.

The award will be presented to Dr. Elson at the Annual Meeting of the Biophysical Society in San Diego, California on February 15-19, 2020.

More information about the award can be found on the web site of our department and the Biophysical Society.

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

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 Washington University in St. Louis • School of Medicine



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.

Chris Chipot, Ph.D.

University of Illinois at Urbana-Champaign



***"From mitochondrial carriers to ATPases.
Insights from computer simulations"***

Tuesday, September 10th, 2019

10:30 am

Biochemistry Seminar Room

264 McDonnell Sciences Building

Host: Dr. Jay Ponder

(Refreshments provided)

July Publication



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?

Nucleic Acids Res. pii: gkz606. doi: 10.1093/nar/gkz606. (2019)

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Congratulations to Melanie Ernst

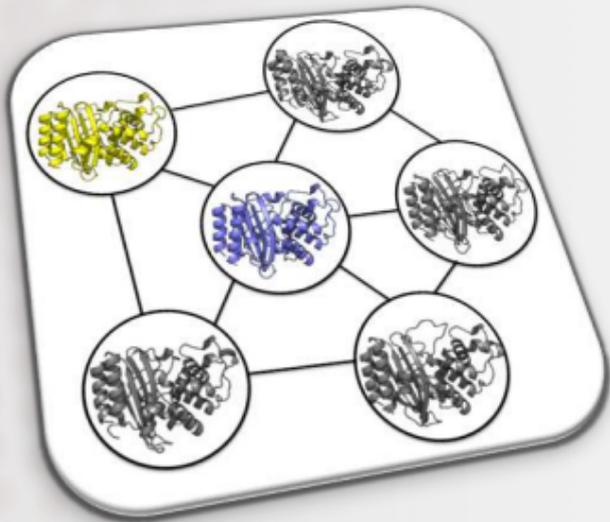
Melanie Ernst has been elected chair of the 2021 Mechanisms of Membrane Transport GRS.

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!



Spotlight on Research



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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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.





WASHINGTON UNIVERSITY
POSTDOCTORAL SOCIETY

ICE-CREAM SOCIAL

**TED
DREWES**
FROZEN GUSTARD



*Kiki, are you
Reading? Are you
Craving? Are you down
for Ice-Cream?
cause we need ya,
and we want ya to
come to social!*



WHEN?

Friday, August 30th from 2-4 pm

WHERE?

Shaffer Courtyard in the McDonnell Science Center (Medical School Campus)

RSVP:

<https://forms.gle/eKPhnfXGvXpLrTJ4A>



June Publication



Tyagi R., Elfawal M.A., Wildman S.A., Helander J., Bulman C.A., Sakanari J., Rosa B.A., Brindley P.J., **Janetka J.W.**, Aroian R.V., & Mitreva M.

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

Sci Rep. 2019 Jun 24;9(1):9085. doi: 10.1038/s41598-019-45548-7. (2019)

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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!

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We provide several backup solutions.**

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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!

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

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.***

Biophys J. pii: S0006-3495(19)30448-5. doi: 10.1016/j.bpj.2019.05.026. (2019)

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Congratulations to Dr. Galburt

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***".



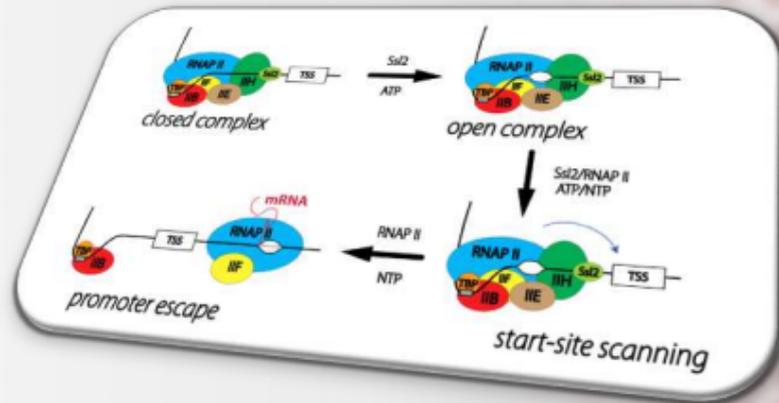
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Spotlight on Research

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

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July Publication



Ordabayev Y.A., **Nguyen B.**, **Kozlov A.G.**, Jia H., & **Lohman T.M.**

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

Proc Natl Acad Sci USA. pii: 201905513. doi: 10.1073/pnas.1905513116. (2019)

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Holiday Schedule

Holiday	Day	Date Observed at WU
Independence Day	Thursday	July 4 th , 2019
Labor Day	Monday	September 2nd, 2019
Thanksgiving Day	Thursday	November 28 th , 2019
Friday after Thanksgiving	Friday	November 29 th , 2019
Christmas Eve	Tuesday	December 24 th , 2019
Christmas Day	Wednesday	December 25 th , 2019

Chris Chipot, Ph.D.

University of Illinois at Urbana-Champaign



***"From mitochondrial carriers to ATPases.
Insights from computer simulations"***

Tuesday, September 10th, 2019

10:30 am

Biochemistry Seminar Room

264 McDonnell Sciences Building

Host: Dr. Jay Ponder

(Refreshments provided)

Farmer's Market

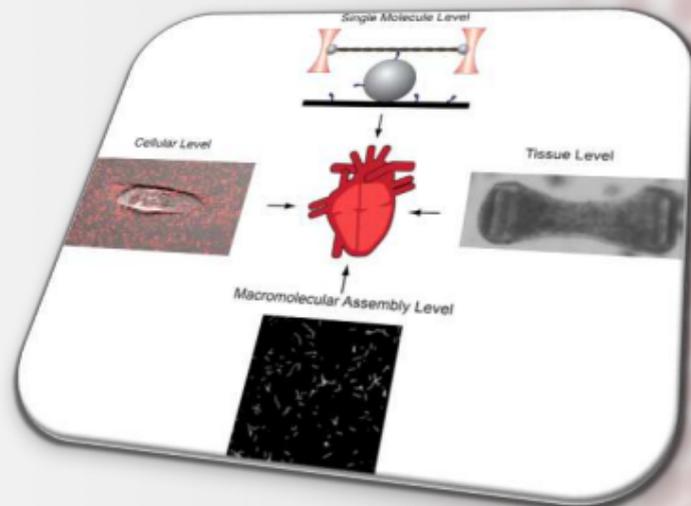
**Inside the McDonnell Pediatric
Research Building
or
Outside on the Plaza
(weather permitting)**

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



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

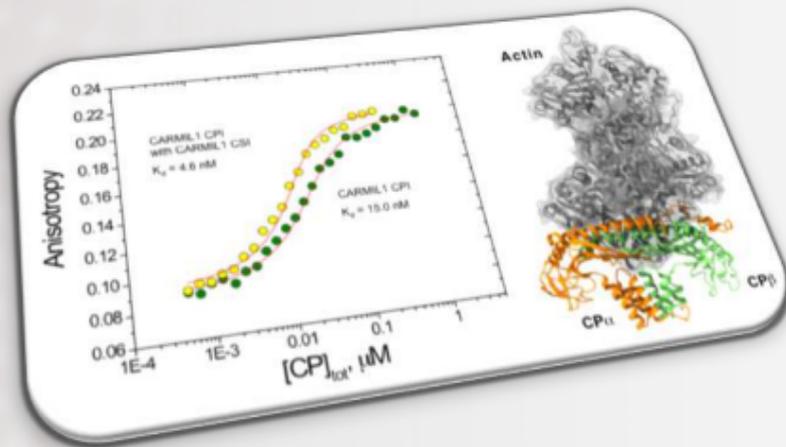
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Are you paid **monthly?**

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

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

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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

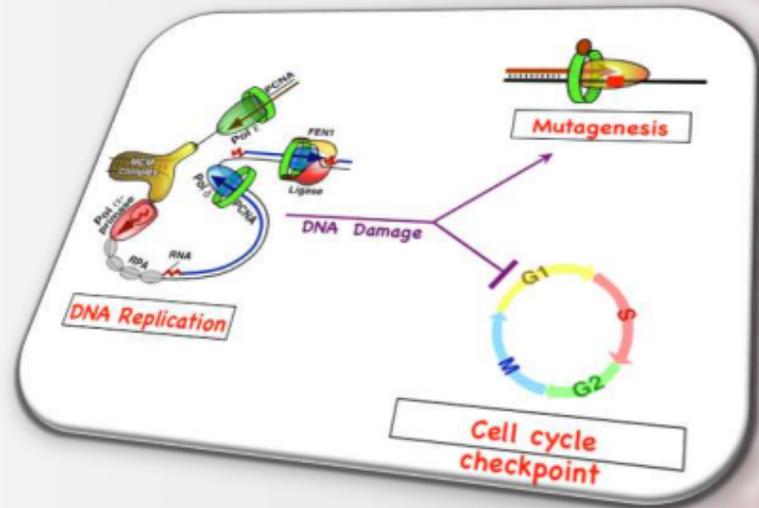
Support website: BMBSupport.wustl.edu

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

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

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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

July Publication



Vishnu C. Damalanka, Scott A. Wildman, & **James W. Janetka**

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

MedChemComm. doi: 10.1039/C9MD00234K. (2019)

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