Welcome to the Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis
School of Medicine
BMB Length of Service Awards

Melissa Torres, Admin Office, 15 years
Thang Ho, Lohman Lab, 20 years
Changguo Tang, NMR Facility, 25 years
Tom Stump, Greenberg Lab, 15 years
Greg DeKoster, Frieden/Hall Labs 10 years

Congratulations and thank you for your service!
Tea Time for Faculty, Staff, Postdocs and Students
Every Tuesday and Thursday
Coffee, tea and cookies will be served.
3:00-4:00 pm, Biochemistry Break Room, 201 McD

Farmer’s Market
Every Thursday
10:00 am - 2:00 pm, either inside the lobby of the McDonnell Pediatric Research Building, or just outside it
Upcoming Events

Friday, August 5th, 2016

Pediatric Grand Rounds
A Bridge Over Troubled Water: Bridging Children to Thoracic Transplantation
Avihu Gazit (WUSTL Pediatrics)
9:15 AM, Clopton Auditorium (Medical Campus)

Thesis Examination
Regulation of Epithelial Proliferation and Migration by Apical-Basal Polarity Proteins and Ajuba LIM Proteins
Mr. Gregory V. Schimizzi, MSTP- Molecular Cell Biology Program- Lab of Dr. Gregory Longmore
10:00 AM, Holden Auditorium, Farrell Learning and Teaching Center

Hope Center Clocks & Sleep Club
Jeff Haspel (WUSTL Internal Medicine)
3:00 PM, 7AB BJC Institute of Health
Development of Selective Protease Inhibitors

Partha Karmakar
(Janetka Lab)

Friday, August 5, 2016
4:00 PM – 264 McDonnell Sciences Building

Hosts: Cooper Lab
On July 12th everyone stopped by Anna's retirement reception to say farewell and wish her luck in her retirement.

We will miss you, Anna!
Join Us for Happy Hour
August 5 @ 4:30 PM

We solemnly swear we are up to no good...
Maxwell, CMBP student in Greg Bowman’s lab, has been selected as a 2016-2017 CBSE Graduate Student Scholar. Maxwell was recognized for the early promise he has shown in the development of novel sampling algorithms that are aiding feature-based sampling of high dimensional conformational spaces.

Maxwell has also been selected as a three year Monsanto Fellow which will allow him a unique opportunity to interact with Monsanto scientists in a variety of venues.
Congratulations to Kathleen Hall!

Kathleen has been chosen to be a member of the RNA Society’s 2017-2018 board. She will be joining the board in January 2017. The other board members are: Haruhiko Siomi and Chris Smith.
Office 365 is Here!

What does this mean?

It means your email will work better and offer more features, you will have access to more cloud services, and you can now install Microsoft Office on all of your computers and devices!

For more information, please visit: https://email.wustl.edu/
The BMB department welcomes Thomas Frederick. He is a postdoc in Greg Bowman’s lab.
On July 11, 2016, Dr. Linda Pike was installed as the Alumni Endowed Professor of Biochemistry and Molecular Biophysics. The Installation was held in the Eric P. Newman Education Center.

Dean David Perlmutter and Dr. John Cooper presided over the installation ceremony. After the opening remarks and installation Dr. Pike presented a seminar entitled “Parsley, Sage, Rosemary, and Thyme: The Fine ErbBs.”
Yansel Nuñez was recently awarded an NSF graduate fellowship. Yansel received a B.S. in biology from Seton Hall University. After graduation, he spent a year working at the NIH in their Intramural Research Training program. In 2014, he matriculated at Washington University in the Molecular Cell Biology graduate program. He joined Linda Pike’s laboratory where his thesis research focuses on EGF receptor structure and function.


Structure and Dynamics of PD-L1 and an Ultra High-Affinity PD-1 Receptor Mutant.

Structure (E-pub ahead of print.) (2016)
Sawicka, M., Wanrooij, P. H., Darbari, V. C., Tannous, E., Hailemariam, S., Burgers, P. M. and Zhang, X.

The Dimeric Architecture of Checkpoint Kinases Mec1ATR and Tel1ATM Reveal a Common Structural Organisation.

J Biol Chem (E-pub ahead of print.) (2016)
Back Up Your Data!

Don’t let your important files and data go up in flames!

If you are not putting your important files on our servers (such as BMBCore), then it is possible that they are NOT getting backed up!

Make sure that your computer is running a backup program!

Want to make sure your computer is backed up? We provide several backup solutions. Just send an email: support@biochem.wustl.edu

WUSM Structural Biology Core

check it out sbc.wustl.edu check it out
Bergonzo, C., Hall, K. B., and Cheatham, T. E.


(E-pub ahead of print.) (2016).
Greenberg, M. J., Arpag, G., Tuzel, E. and Ostap, E. M.

A Perspective on the Role of Myosins as Mechanosensors.

Cho, J. E., Huang, S. N., Burgers, P. M., Shuman, S., Pommier, Y. and Jinks-Robertson, S.

Parallel Analysis of Ribonucleotide-Dependent Deletions Produced by Yeast Top1 In Vitro and In Vivo. Nucleic Acids Res.

(E-pub ahead of print.) (2016)
The Cooper Lab long term goal is to understand the molecular basis of cell motility, including the role of motility in human disease, especially cancer. How do actin, microtubules and their motors control the shape and movement of cells? How are these elements of the cytoskeleton regulated by signals from the cell cycle machinery and from outside the cell? We study these questions in cultured human cells and zebrafish, using the strengths of each system. We utilize a variety of technical approaches encompassing genetics, biochemistry and cell biology. The major current focus of the lab is on actin assembly and membrane dynamics in animal cells. We are studying how actin-binding proteins regulated by signals from cancer-causing viruses and growth factors direct the polymerization of actin, which causes cells to move and change shape.
Congratulations to Peter Burgers!

Peter has received a five year MIRA grant award from the National Institute of General Medical Sciences for his research entitled “Mechanisms of DNA Replication and Maintenance in Eukaryotes”.

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The BMB department welcomes Marlene Mekel.
She is a staff scientist in John Cooper’s lab.
Please remember to...
Congratulations to Tim Lohman!

Tim has received a four year grant award from the National Institute of General Medical Sciences for his research entitled “SSB Protein/DNA Interactions”.

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The Janetka Lab is studying therapeutic targets and cellular mechanisms in cancer and infectious disease. The overall focus of the lab is to interfere with key biological processes outside the cell, by inhibiting one or more key proteins, which are important in bacterial pathogenesis or tumor progression. We employ rational structure-based drug design and synthetic medicinal chemistry to develop peptide-based and small molecule inhibitors as chemical tools to help decipher mechanisms of disease. In one project we are developing glycoside-based antagonists of adhesins, such as FimH, FmlD, and PapG, in E. coli., which are essential for host-bacteria interactions in UTI. In another project, we are developing peptide-based and small molecule inhibitors of serine proteases, including HGFA, matriptase and hepsin, which post-translationally process the growth factor ligands of c-MET and RON receptor tyrosine kinases, both important in tumor progression and metastatic cancer. The long-term goal of our research is to identify preclinical candidate drugs as new and innovative medicines for treating patients with resistant infections and cancer.
Smith, J. A., Xu, G., Feng, R., Janetka, J. W., Moeller, K. D.


Stojkovic, G., Makarova, A. V., Wanrooij, P. H., Forslund, J., Burgers, P. M., and Wanrooij, S.

Oxidative DNA Damage Stalls the Human Mitochondrial Replisome.

The Greenberg Lab focuses on the generation and transduction of forces by molecular motors, with an emphasis on human disease. The lab uses an array of biochemical, biophysical, and cell biological techniques to probe the function and regulation of these motors over a range of scales that extends from single molecules to tissues. Currently, the lab is studying the molecular basis of heart failure.”
for Faculty, Staff, Postdocs & Students

Tuesdays & Thursdays
3:00-4:00 pm

Biochemistry Break Room
201 McDonnell Science

Coffee, tea and cookies are served.
Woody, M. S., Lewis, J.H., Greenberg, M. J., Goldman, Y. E., and Ostap, E. M.


Attenuation of Ischemia-Reperfusion Injury and Improvement of Survival in Recipients of Steatotic Rat Livers Using CD47 Monoclonal Antibody.

Transplantation (E-pub ahead of print.) (2016)
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.
Shu, Q., Krezel, A. M., Cusumano, Z. T., Pinkner, J.S. Klein, R., Hultgren, S. J. and Frieden, C.
Solution NMR Structure of CsgE: Structural Insights into a Chaperone and Regulator Protein Important for Functional Amyloid Formation.
Proc Natl Acad Sci USA 113:7130-7135 (2016)
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: BiochemSupport.wustl.edu

Just send us an email or visit our website and click on *Request Support* to get help!
Are you paid monthly?

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

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Day</th>
<th>Date Observed at WU</th>
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<tbody>
<tr>
<td>Labor Day</td>
<td>Monday</td>
<td>September 5, 2016</td>
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<tr>
<td>Thanksgiving Day</td>
<td>Thursday</td>
<td>November 24, 2016</td>
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<tr>
<td>Day after Thanksgiving</td>
<td>Friday</td>
<td>November 25, 2016</td>
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<tr>
<td>Christmas Day</td>
<td>Sunday</td>
<td>Monday, December 26, 2016</td>
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<tr>
<td>New Year’s Day</td>
<td>Sunday</td>
<td>Monday, January 2, 2017</td>
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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.

Right: SSB
Used paper drink cups can be recycled

Used paper plates can be recycled
The **Galburt Lab** studies the detailed molecular mechanisms of transcription initiation across the three domains of life. The lab specializes in using single-molecule and ensemble biophysical techniques including optical and magnetic trapping and fluorescence to monitor initiation in real-time. These techniques allow for the quantification of the rates and magnitudes of conformational transitions in RNA polymerase, its associated transcription initiation factors, and the promoter DNA template that ultimately underlie gene expression and its regulation.
Please keep your lab locked if no one is in the lab when you leave.

And take your keys with you!

Please remember to take your gloves off when leaving the lab.

Don’t Forget!
Research in the Ellenberger Lab focuses on the molecular structures and cellular functions of proteins that replicate DNA, repair chemical damage, and regulate chromatin structure. These enzymes and regulatory proteins ensure the faithful transmission of our genetic blueprint to future generations.

Right: Illustration of Human DNA Ligase I, an essential protein in DNA replication and repair.
Science Fridays and Happy Hour: EVERY FRIDAY, starting at 4PM.