Welcome to the Department of Biochemistry and Molecular Biophysics

Washington University in St. Louis
School of Medicine
Join us for Happy Hour!
March 31 at 4:30 pm!
Hosted by the Pike Lab!
Galburt E.A. and Tomko E.J.

Conformational selection and induced fit as a useful framework for molecular motor mechanisms.

Biophys Chem. 223:11-16 (2017)
FARMSTEAD CAFÉ

OPENING
APRIL 3, 2017

LOCAL • SEASONAL • FROM SCRATCH
farmstead.cafebonappetit.com
The Marshall Lab performs a synergistic application of organic synthesis (solution- and solid-phase chemistry), enzymatic assays (electrophoretic mobility shift assays (EMSA) and surface plasmon resonance (SPR)), and computational chemistry techniques (homology modeling, molecular docking, molecular dynamics simulations, QSAR and 3D QSAR models) to rationally develop novel isoform-selective Lysine Deacetylases Inhibitors (KDACIs) as new therapeutics for the treatment of cancer, HIV-1, schistosomiasis and malaria.
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!

ARE YOU COMFORTABLE WITH LOSING ALL YOUR RESEARCH DATA?

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
Congratulations to Roberto Galletto, whose promotion with tenure was officially approved by the Board of Trustees on March 3, 2017.
Do you have unneeded pairs of gently used shoes? If so, please consider donating them to a great cause!

The Office of Sustainability is collecting shoes in partnership with Shoeman Water Projects, a locally owned nonprofit institution that exports shoes to street vendors in developing communities around the world. Funds generated provide well drilling rigs, water purification systems, hand pump repairs, and training programs to bring clean, fresh water to community members. Please have the shoes matched and laced together or in a small bag. You can drop shoes off now through the end of May at the following locations:

**Medical School Campus** – CSRB/BJCIH Link, FLTC Atrium, 4444 Forest Park Lobby, Clayton Taylor Garage, TAB Lobby, McDonnell Science Lobby, MCC Link, 4515 Lobby

Questions? Email Melanie Strowmatt at mstrowmatt@wustl.edu

Design and synthesis of benzodiazepine analogs as isoform-selective human lysine deacetylase inhibitors.

Biophysical Evenings

"How Does a Helicase Motor Unwind DNA?"

Tim Lohman, Ph.D.
Dept. of Biochemistry and Molecular Biophysics

Tuesday, April 11th, 2017 - 5:30 pm
Holden Auditorium, FLTC
Medical School Campus
Food served afterwards

Quantitative profiling of selective Sox/POU pairing on hundreds of sequences in parallel by Coop-seq.

Nucleic Acids Res. (2017)
* Current handsets will be replaced with Voice over IP (VoIP) phones.  
(The new phones will have all the same features as the old phones but will be connected through the data network.)

* This project is expected to be finished by July 2017.  
(More info will be provided as the project moves forward.)

* This project does not affect faxes, emergency lines or elevator phones, and you will keep your current phone number.

For more info: https://voip.med.wustl.edu
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.
Kirsten Verhey, Ph.D.
University of Michigan

“Structural and functional diversity across the kinesin superfamily”

Tuesday, April 4th, 2017
10:30 am
Biochemistry Seminar Room, 264 McDonnell Sciences
Host: Michael Greenberg
(Refreshments provided)
Vasilios Kalas, Jerome S. Pinkner, Thomas J. Hannan, Michael E. Hibbing, Karen W. Dodson, Alex S. Holehouse, Hao Zhang, Niraj H. Tolia, Michael L. Gross, Rohit V. Pappu, James Janetka and Scott J. Hultgren

Evolutionary fine-tuning of conformational ensembles in FimH during host-pathogen interactions

Van Der Waals Forces for the Next Generation of Force Fields

Josh Rackers
(Ponder lab)

Friday, March 31st, 2017
4:00 pm – 264 McDonnell Sciences

Host: Pike lab
Farmer’s Market

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

Every Thursday!
10:00 am - 2:00 pm
Congratulations to Joseph Stodola. Joe received the Olin Biomedical Science Fellowship. These Fellowships were created by a generous gift from the Olin Foundation. The Olin Fellowships are presented to Ph.D. and M.D./Ph.D. students conducting research in the biomedical sciences in any Washington University graduate program who have made significant contributions, and demonstrated the potential to become outstanding research scientists. Joe obtained his PhD degree last summer in Peter Burgers’ lab. Next month, he will join Sigma-Aldrich.
New COI Module Now Available!
The new COI Module launched this morning, February 27th, and is available at rms.wustl.edu

Improvements to COI Disclosure Processes
• Single annual financial disclosure form to be used by the Research, Institutional, and Clinical COI Programs (CME coming soon), resulting in coordinated reviews and communications
• Responsive form with fewer questions and expanded branching logic that limits questions based on the discloser’s role and answers
• Financial Disclosure Statement (FDS) is now used only to disclose financial interests; research data will be addressed separately, as needed (see below)
• New COI umbrella website coi.wustl.edu provides one-stop-shopping for all things COI, including tutorials, system and policy FAQs, contact information, and other support resources for all 4 COI Program Offices
• Single point of contact for all COI form and policy questions: COI coi@wustl.edu

What Disclosers Need to Know Now
Annual Notifications
You will continue to receive notification emails with a link to the FDS when it is time for you to complete your annual disclosure. The FDS is also designed to be used throughout the year for financial interest updates.

Converted Data from Your Last Disclosure
To help reduce initial data entry, your FDS has been prepopulated with as many data elements as possible from your most recent disclosure. All future disclosures will retain data from the previous submission.

New Research Disclosure Form (RDF)
The annual FDS no longer contains research data and you will not be asked to provide such information in that form. If research details are needed, COI Program staff will request this information from you via a separate Research Disclosure Form (RDF).

Travel
A new travel disclosure form included in the COI Module replaces the Excel spreadsheet you have been using. Based on your research funding sources (i.e. those using PHS regulations), you will continue to receive email reminders to disclose travel occurrences paid for by outside entities. See the COI website for updated travel guidance.

Questions
For general PAAMCO Project/RMS information, contact Becky Evans or email ovcrinfo@wustl.edu
Don't Forget!

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.
Join us for Happy Hour!
March 31 at 4:30 pm!
Hosted by the Pike Lab!
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.
Santiago-Tirado F.H., **Onken M.D.**, **Cooper J.A.**, Klein R.S., and Doering T.L.

**Trojan Horse Transit Contributes to Blood-Brain Barrier Crossing of a Eukaryotic Pathogen.**

MBio. (2017)
NEW WASTE SORTING GUIDELINES
ALWAYS EMPTY FOODS AND LIQUIDS BEFORE RECYCLING CONTAINERS

Esterase mutation is a mechanism of resistance to antimalarial compounds.

*Nat Commun.* (2017)

Congratulations to Linda Pike
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.
Melissa M. Budelier, Wayland W. L. Cheng, Lucie Bergdoll, Zi-Wei Chen, Jeff Abramson, Kathiresan Krishnan, Mingxing Qian, Douglas F. Covey, James W. Janetka, and Alex S. Evers

Click Chemistry Reagent for Identification of Sites of Covalent Ligand Incorporation in Integral Membrane Proteins

Analytical Chem. (2017)
"How Does a Helicase Motor Unwind DNA?"

Tim Lohman, Ph.D.
Dept. of Biochemistry and Molecular Biophysics

Tuesday, April 11th, 2017 - 5:30 pm

Holden Auditorium, FLTC
Medical School Campus

Food served afterwards
FARMSTEAD CAFÉ
OPENING
APRIL 3, 2017

MONDAY THROUGH FRIDAY
7 A.M. TO 6 P.M.

LOCAL • SEASONAL • FROM SCRATCH
farmstead.cafebonappetit.com
**February Publication**


Structural insights of SmKDAC8 inhibitors: Targeting Schistosoma epigenetics through a combined structure-based 3D QSAR, in vitro and synthesis strategy.

Bioorg Med Chem. (2017)
Kirsten Verhey, Ph.D.
University of Michigan

“Structural and functional diversity across the kinesin superfamily”

Tuesday, April 4th, 2017
10:30 am
Biochemistry Seminar Room, 264 McDonnell Sciences
Host: Michael Greenberg
(Refreshments provided)
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: BiochemSupport.wustl.edu

Just send us an email or visit our website and click on *Request Support* to get help!
Van Der Waals Forces for the Next Generation of Force Fields

Josh Rackers
(Ponder lab)

Friday, March 31st, 2017
4:00 pm – 264 McDonnell Sciences

Host: Pike lab
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.
13th Annual Postdoc Symposium

Keynote Speaker
JABBAR R. BENNETT Ph.D.
Associate Provost for Diversity and Inclusion, Northwestern University
“Mentoring and Leading From Within: Ensuring Your Success”

1:00 pm Welcome & Panel Discussion
2:20 pm Keynote Address & Mentor Award
3:30 pm Poster Session & Reception

“Changing Course: Navigating Career Trajectories”

Panelists
Lindzy Dodson Ph.D. (SLU)
Josh Fischer Ph.D. (Monsanto)
Angela Bowman Ph.D. (WashU CRM)

March 30, 2017
Farrell Learning & Teaching Center

postdoc@wsum.wustl.edu
dbbs.wustl.edu/Postdocs/Postdocsymposium
Congratulations to Jim Janetka!

Jim Janetka, Ph.D., Associate Professor of Biochemistry and Molecular Biophysics and Chemistry Adjunct, along with Scott Hultgren, PhD, Helen L. Stoever Professor of Molecular Microbiology received a four year grant award from the National Institute of Diabetes and Digestive and Kidney Diseases for his research entitled “Small Molecule Bacterial Lectin Antagonists for UTI Treatment and Prevention”. 
<table>
<thead>
<tr>
<th>Holiday</th>
<th>Day</th>
<th>Date Observed at WU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Luther King, Jr. Day</td>
<td>Monday</td>
<td>January 16&lt;sup&gt;th&lt;/sup&gt;, 2007</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Monday</td>
<td>May 29&lt;sup&gt;th&lt;/sup&gt;, 2017</td>
</tr>
<tr>
<td>Independence Day</td>
<td>Tuesday</td>
<td>July 4&lt;sup&gt;th&lt;/sup&gt;, 2017</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Monday</td>
<td>September 4&lt;sup&gt;th&lt;/sup&gt;, 2017</td>
</tr>
</tbody>
</table>
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
Sukrit Singh and Gregory R. Bowman

Quantifying allosteric communication via both concerted structural changes and conformational disorder with CARDS

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.

Right: SSB
Are you paid **monthly**?

Please remember that your **time report** is **due by the 5th of each month**.
Science Fridays and Happy Hour:
EVERY FRIDAY, starting at 4PM.

BMB SCIENCE FRIDAYS

a forum for new data, new ideas
and works in progress