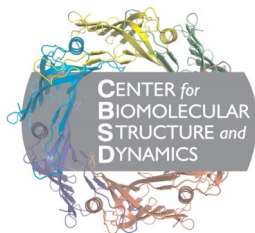


Center for Biomolecular Structure and Dynamics (CBSD) CoBRE Research Symposium 2017

Sept. 8-9, 2017

University of Montana | Missoula, MT



Welcome

Thank you for attending the 6th Annual Center for Biomolecular Structure & Dynamics (CBSD) CoBRE Research Retreat. We are delighted you could join us as a member of the CBSD community.

All presentations and meetings will be held in the University Center, room 326-327, unless otherwise noted. A map of the campus is on page 12 to assist you in finding your way around. In an effort to go “green,” presenter information and abstracts can be found on the CBSD website (hs.umt.edu/cbsd/events/research_retreats/2017-cobre-symposium.php).

If you have any questions or concerns, please call the CBSD office at 406-243-6003.

Sincerely,

Sara Jestrab
CBSD Program Coordinator



Friday Agenda

Sept. 8, 2017

All day open symposium (UC 326-327), unless otherwise noted

Light breakfast will be served in the Meeting Room (MR) foyer

Subproject Investigator Presentations

8:30—10:45 a.m.

Moderator: Stephen Sprang

8:45—9:00 a.m. CBSD Director, Stephen Sprang—opening remarks and introduction | UC 326-327

9:00—10:45 a.m. UC 326-327 (20 minute presentation + questions)

- Celine Beamer, *New Developments in the Aryl Hydrocarbon Receptor Structure*
- Philippe Diaz, *Potentiating the Activity of Endogenous Retinoic Acid A Neglected Therapeutic Strategy*
- Kasper Hansen, *Investigations of Ligand Binding to NMDA Receptors*
- Andrea Stierle, *Development of More Potent Inhibitors of Molecular Pathways Associated with Epithelial Mesenchymal Transition (EMT) and New Antibiotics from Cryptic Biosynthesis*
- Dong Wang, *Catalytic Water Oxidation by a Bio-inspired Nickel Complex with Redox Active Ligand*

In an effort to go "green," presentation abstracts can be found on the CBSD website.

Break

10:45—11:00 a.m.



Friday Agenda

Sept. 8, 2017

All day open symposium (UC 326-327), unless otherwise noted

Pilot Project, Junior Investigator & Career Development Presentations

11:00 a.m.—12:30 p.m.

Moderator: Bruce Bowler

UC 326-327

- Pilot projects—(15 minute presentation + questions)
 - J. Stephen Lodmell, *RVFV Triggers Aberrant Splicing of Genes Essential for the Cellular Antiviral Response*
 - Jack Nunberg, *Arenavirus Envelope Glycoprotein Nanodiscs for CryoEM Structural Analysis*
- Junior Investigator and Career Development — (20 minute presentation + questions)
 - Travis Wheeler, *Searching for Similar Sequences, Obsessing on Speed and Sensitivity*
 - Travis Hughes, *Structure and Function Studies of the Transcription Factor PPAR Gamma*
 - Patrick Secor, *Entropically Driven Bacterial Aggregation Induces the SOS Response and Antibiotic Tolerance*

In an effort to go "green," presentation abstracts can be found on the CBSD website.



Friday Agenda

Sept. 8, 2017

All day open symposium (UC 326-327), unless otherwise noted

Lunch

12:30—1:45 p.m.

Lunch for participants will be served in the Meeting Room (MR) Foyer.

A private lunch for Vice President for Research and Creative Scholarship, CBSD Director, Associate Director, External Advisory Committee, & Internal Advisory Committee will be served in the Alumni Board Room (UC 329)

CBSD Fellowship Presentations

1:45—2:45 p.m.

Moderator: Cindee Yates-Hansen

UC 326-327 (7 minute presentations)

- Adam Drobish, *Production of Poly-N-Acetylyglucosamine by the Spirochete Borrelia burgdorferi*
- Miyuki Hayashi, *Rift Valley Fever Virus Nucleocapsid Protein Binds to C/D Box Motifs of snoRNA*
- Yubin Kwon, *Uncovering Late-Transition Metal-Oxo Species Beyond the Oxo-Wall*
- Daniel Olson, *TRUCE: A Hidden Markov Model for Annotation of Tandem Repeats*
- Denis Shchepakina, *A Photoswitchable Inhibitor of a Glutamate Transporter*
- Joachim Veit, *Novel CYP26 Inhibitors Potentiate the Effects of All-Trans Retinoic Acid on Phenotype of Normal and Darier Disease Keratinocytes in Reconstructed Human Epidermis*
- Luke White, *Rift Valley Fever Virus and Splicing: a Minigene Approach*



Friday Agenda

Sept. 8, 2017

All day open symposium (UC 326-327), unless otherwise noted

Break

2:45—3:00 p.m.

Poster Presentation

3:00 —4:30 p.m.

Light refreshments will be served

UC 330-331

Poster details can be found on pages 10-11.

Student Round Table with External Advisory Committee

4:30 —5:00 p.m.

Alumni Board Room (UC 329)

Invitation Only—CBSD Faculty/Staff Dinner

6:00 p.m.



Saturday Agenda

Sept. 9, 2017

Light breakfast will be served in UC 326

CBSD Core Facility Presentations

9:00—10:30 a.m.

UC 326 (20 minute presentation + questions)

- **BioSpectroscopy Core Research Facility**—J.B. Alexander (Sandy) Ross
- **Macromolecular X-ray Diffraction Core Facility**—Tung-Chung Mou
- **Molecular Computation Core Facility**—David Holley

Break

10:30—10:45 a.m.

CBSD Core Facility Round Table

10:45—11:30 a.m.

This is a round table for the CBSD Core Facility Directors, Managers, External Advisory Committee and Internal Advisory Committee Members.

Alumni Board Room (UC 329)

- **BioSpectroscopy Core Research Facility**—J.B. Alexander (Sandy) Ross, Zifan Wang, Ekaterina Voronina, Scott Wetzel
- **Macromolecular X-ray Diffraction Core Facility**—Stephen Sprang, Orion Berryman, Tung-Chung Mou, Klara Briknarova, Bruce Bowler
- **Molecular Computation Core Facility**—Nicholas Natale, David Holley, Xi Chu, Travis Hughes, Michael Kavanaugh



Saturday Agenda

Sept. 9, 2017

Lunch

11:30 a.m. —1:00 p.m.

A private lunch for CBSD Director, Associate Director, External Advisory Committee will be served in the Alumni Board Room (UC 329)

Break

1:00 —1:30 p.m.

Individual Faculty Meetings with External Advisory Mentor

1:30 —2:30 p.m.

Escort from and back to Alumni Board Room (UC 329)

- Travis Hughes and David Case
- Dong Wang and Elizabeth Goldsmith
- Philippe Diaz and Suzanne Scarlata
- Patrick Secor and Elizabeth Goldsmith
- Celine Beamer and Wesley Sundquist
- Travis Wheeler and David Case



Saturday Agenda

Sept. 9, 2017

Break

2:30 –2:45 p.m.

External Advisory Committee Final
Evaluation (Private)

2:45–4:00 p.m.

Alumni Board Room (UC 329)

Dinner

6:30 p.m.

A private dinner for CBSD Director, Associate Director, External Advisory Committee.



Poster Presentation

Sept. 8, 2017 | 3:00 p.m.

UC 330-331

- **Dustin Becht**, *Residual Structure in the Denatured State of a Three-Helix Bundle Protein*
- **Ian Chrisman**, *Examining the conformational ensemble in the peroxisome proliferation-activating receptor gamma (PPAR γ) ligand binding domain*
- **Nicholas Day**, *Dynein Light Chain 1 Participates in Post-Transcriptional Regulation of Germline mRNAs*
- **Margaret Elmer-Dixon**, *Investigation of Membrane Curvature Dependency on Cytochrome c Binding to Cardiolipin*
- **Miyuki Hayashi**, *Rift Valley Fever Virus Nucleocapsid Protein Binds to C/D Box Motifs of snoRNA*
- **Katie Hornak**, *RVFV infection induced modification of host alternative splicing*
- **Jake Johnston**, *Conformational changes of Gai1 nucleotide exchange catalyzed by Ric-8A*
- **Yubin Kwon**, *Uncovering Late-Transition Metal-Oxo Species Beyond the Oxo-Wall*
- **Moses Leavens**, *Denatured state conformational bias in a three-helix bundle*
- **Haotian Lei**, *Effects of humanizing mutations on heme crevice loop of cytochrome c*
- **Casey Massena**, *Delving into the Solution Dynamics of a Halogen Bonding Anion Triple Helicate*
- **Levi McClelland**, *Kinetic insights into Ric-8A GEF activity*
- **Michelle Nemetchek**, *Coregulators select conformational states from drug specific peroxisome proliferator-activated receptor gamma (PPAR γ) conformational ensembles*
- **Alex Nord**, *Splice-aware multiple sequence alignment improves protein alignment quality and supports alternative reading frame detection*



Poster Presentation

Sept. 8, 2017 | 3:00 p.m.

UC 330-331

- **Daniel Olson**, *TRUCE: A Hidden Markov Model for Annotation of Tandem Repeats*
- **William Penny**, *Characterization of phospholipid and sphingomyelin bilayer solvation characteristics by nanodisc electrokinetic chromatography*
- **James Rogan**, *Dimeric Human Cytochrome c Shows Increased Peroxidase Activity*
- **Melissa Roseleip**, *Expression and Purification of Ric8B Delta9*
- **Harmen Steele**, *Exploring the Stability and Cardiolipin Affinity of Cytochrome c's Domain-Swapped Dimer Conformation*
- **Sascha Stump**, *First crystal structure of the major quadruplex formed in the promoter region of the human c-MYC oncogene*
- **Joachim Veit**, *Novel CYP26 Inhibitors Potentiate the Effects of All-Trans Retinoic Acid on Phenotype of Normal and Darier Disease Keratinocytes in Reconstructed Human Epidermis*
- **Xiaobo Wang**, *Characterization of DLC-1 role in FBF-2 RNP assembly*
- **Luke White**, *Rift Valley fever virus and splicing: a minigene approach*
- **Ziqing Xie**, *Investigation of Membrane Curvature Dependency on Cytochrome c Binding to Cardiolipin*
- **Feng Yi**, *Properties of triheteromeric NMDA receptors containing two distinct GluN1 isoforms*
- **Baisen Zeng**, *A Structural Study on RIC-8A, a novel guanine-nucleotide exchange factor (GEF)*
- **Le Zhang**, *Inter-strain variation in gH/gL complexes is influenced by both the expression-level, and the amino acid sequence of gO*



WiFi access

In order to connect to the grizzlyguest network, a device with web browsing capabilities is necessary.

- Select *grizzlyguest* from your list of available networks
- Open an internet browser on your device
- You should see a screen from the University of Montana stating the terms of being a guest user on grizzlyguest.
- Enter your email address and click the "I accept" button to accept the terms and finish connecting.
- You should now be connected to grizzlyguest and able to connect to the Internet!

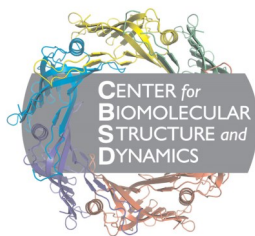


Notes



Notes





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