

# 5<sup>th</sup> ANNUAL CBSD COBRE RESEARCH SYMPOSIUM, JUNE 1-2, 2016 | THE UNIVERSITY OF MONTANA

## WEDNESDAY, JUNE 1, 2016 | RESEARCH PRESENTATIONS

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**Moderator:** Mark Grimes, Associate Prof., Division of Biological Sciences

8:00 AM – 8:15 AM- CBSD Director Stephen R. Sprang, opening remarks and introduction/ UC 326-327

8:15 AM – 10:00 AM Current Junior Investigators, 15 minute presentations + 5 minute Q&A / UC 326-327

- **Orion Berryman**, Assistant Prof. (Chemistry/Biochemistry), *A Halogen Bond Induced Triple Helicate Encapsulates Iodide.*
- **Kasper Hansen**, Assistant Prof. (BMED), *Structural basis for negative allosteric modulation of NMDA receptors.*
- **Andrea Stierle**, Research Prof. (BMED), *Directed Synthesis of More Potent Inhibitors of Molecular Pathways Associated with Epithelial Mesenchymal Transition as Novel Tools and Potential Chemotherapies.*
- **Celine Beamer**, Research Assistant Prof. (BMED), *Aryl hydrocarbon Receptor (AhR) signaling modifies pseudomonas aeruginosa-regulated responses in murine dendritic cells.*

### 10:00 AM-10:15 AM Break

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**Moderator:** Cindee Yates-Hansen, Manager, Stephen Sprang Laboratory

10:15 AM – 11:15 AM, 7 minute “Elevator Pitch” Presentations / UC 326-327

- **Mary Ellenbecker**, Post-Doctoral Fellow (Voronina), *Analysis of DLC-1 mediated regulation of the tumor suppressor protein GLD-1.*
- **Le Zhang**, Graduate student (Ryckman), *Interstrain variability in the assembly of HCMV gH/gL/gO has a multi-locus basis.*
- **Casey Massena**, Graduate student (Berryman), *A Halogen Bond Induced Triple Helix Encapsulates Iodide.*
- **Eric Schultz**, Post-Doctoral Fellow (Ryckman), *Mutagenesis of HCMV gH/gL distinguishes different routes of viral entry.*
- **Ian Chrisman**, Graduate Student (Smirnov), *Is ferryl a side-product or an intermediate in catalysis of L-tryptophan dioxygenation by human indoleamine 2,3-dioxygenase (hIDO1)?*
- **Levi McClelland**, Post-Doctoral Fellow (Sprang), *Kinetic insights into Ric-8A GEF activity.*

### 11:15 AM – 11:45 AM Break/Set-up for Poster Session/ UC 330-331

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## 11:45 AM -12:45 PM LUNCH & POSTER SESSION / UC 330-331

See poster session handout for titles and presenters.

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**Moderator:** Gina Bullard, Research Technician, Kasper Hansen Laboratory

1:00 PM-2:20 PM Career Development and New Recruit Faculty Presentations, 15 minute presentations + 5 minute Q&A/ UC 326-327

- **Ekaterina Voronina**, Career Development Faculty (DBS), *LC8 dynein light chain, a facilitator of RNA-binding proteins in C. elegans.*
- **Travis Hughes**, New Biomedical & Pharmaceutical Sciences Dept. Faculty Recruit, *A view into the conformational ensemble of PPAR $\gamma$ .*
- **Dong Wang**, New Dept. of Chemistry & Biochemistry Faculty Recruit, *Biomimetic, catalytic functionalization of aliphatic hydrocarbons by dinuclear M<sub>2</sub>O<sub>2</sub> "diamond core" complexes.*
- **Philippe Diaz**, CoBRE Phase II Junior Investigator (BMED), *Selective inhibition of CYP26 in the skin for the treatment of ichthyosis*

### 2:20 PM-2:30 PM Break

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**Moderator:** Gina Bullard, Research Technician, Kasper Hansen Laboratory

2:30 PM-4:00 PM -CBSD Core Facilities, 15 minute presentations + 5 minute Q&A / **UC 326-327**

- **BCRL** (Sandy Ross & Michelle Terwilliger): *The BioSpectroscopy Core: Highlights from CoBRE Year 5.*
- **MCCF** (Stephen Sprang & David Holley): *The Molecular Computation Core Facility CoBRE Year 5 Update.*
- **MXDC** (Stephen Sprang & T.C. Mou): *The Macromolecular X-Ray Diffraction Core Facility Year 5 Update.*
- **NMR/MASS SPEC** (TENTATIVE)

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## END OF PRESENTATIONS

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4:00 PM – 5:00 PM Current Junior Investigators, Individual Meetings with External Advisory Mentor

- Celine Beamer & Kevin Gardner
- Orion Berryman & Elizabeth Goldsmith
- Kasper Hansen & Suzanne Scarlata
- Andrea Stierle & David Case

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## THURSDAY, JUNE 2, 2016 | MEETINGS & CORE WORKSHOPS

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8:00 AM – 9:00 AM CBSD CoBRE Administrators Meeting/ **UC Alumni Boardroom/329**

- UM Vice President of Research Scott Whittenburg
- Director Stephen Sprang
- Associate Director Bruce Bowler (*via Skype*)
- Internal Advisory Committee Members: Jesse Hay, Michael Kavanaugh, Stephen Lodmell
- External Advisory Committee Members: Kevin Gardner, David Case, Suzanne Scarlata, Elizabeth Goldsmith

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## COBRE CORE FACILITY HOSTED WORKSHOPS

- **Macromolecular X-ray Diffraction Core Facility:** lead by T.C. Mou  
Presentation: 9 – 10 AM, UC 327; Open House 10 AM – 12 PM, ISB 016
- **BioSpectroscopy Core Research Laboratory:** lead by Sandy Ross & Michelle Terwilliger  
Presentation: 10-11 AM, UC 327; Open House 9-10 AM /11 AM-12 PM, CHEM 013A
- **Molecular Computation Core Facility:** lead by David Holley  
Presentation: 11:00 – 12:00 PM, SB 482; Open House 9-11 AM, SB 482

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12:15 PM-1:00 PM Invited Graduate Student Lunch & Round Table with External Advisory Mentor / **UC Alumni Boardroom/329**

### 1:00 PM-1:15 PM Break

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1:15 PM-2:15 PM External Advisory Committee round table with Core Facilities Directors, Managers & Phase II Core Internal Advisory Committee Members/ **UC Alumni Boardroom/329**

- BCRL (Sandy Ross & Michelle Terwilliger; IAC: Ekaterina Voronina, Scott Wetzel)
- MCCF (Stephen Sprang & David Holley; IAC: Xi Chu, Travis Hughes; Nicholas Natale)
- MXDC (Stephen Sprang & T.C. Mou; IAC: Klara Briknarova)

### 2:15 PM-2:30 PM Break for External Advisory Committee

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2:30 PM-3:30 PM Faculty Individual Meetings with External Advisory Mentor/ p/u from **UC Alumni Boardroom/329**

- Travis Hughes & David Case
- Dong Wang & Elizabeth Goldsmith
- Philippe Diaz & Suzanne Scarlata

3:45 PM-5:00 PM External Advisory Committee Final Evaluation Meeting (private)/ **UC Alumni Boardroom/329**

## POSTER SESSION

Wednesday, June 1, 2016 | UC 330-331 | 11:45 AM – 12:45 PM

**Baisen Zeng**, Graduate Student (Sprang): *Identification and Mutational Analysis of a Putative Gai1 Binding Site on RIC-8A.*

**Moses Leavens**, Graduate Student (Bowler): *Protein folding of HHR23A Ubiquitin-associated (UBA) domains.*

**Jenessa Olson**, Staff Technician (Voronina): *The Role of Histone H3 Lysine 9 Trimethylation in Germ Cell Development*

**Joachim Veit**, Graduate Student (Diaz): *Novel CYP26 inhibitors modulate retinoic acid related gene expression in ichthyotic and normal human keratinocytes.*

**Kelly McGrath**, Graduate Student (Stierle): *Structure-based drug design and Caspase-1.*

**Nicholas Day**, Graduate Student (Voronina): *The Search for Determinants of Germ Granule Localization.*

**Feng Yi**, Post-Doctoral Fellow (Hansen): *Structural basis for negative allosteric modulation of GluN2A-containing NMDA receptors.*

**Levi McClelland**, Post-Doctoral Fellow (Sprang): *Kinetic insights into Ric-8A GEF activity.*

**Mary Ellenbecker**, Post-Doctoral Fellow (Voronina): *Analysis of DLC-1 mediated regulation of the tumor suppressor protein GLD-1.*

**Le Zhang**, Graduate student (Ryckman): *Interstrain variability in the assembly of HCMV gH/gL/gO has a multi-locus basis.*

**Casey Massena**, Graduate student (Berryman): *A Halogen Bond Induced Triple Helix Encapsulates Iodide.*

**Eric Schultz**, Post-Doctoral Fellow (Ryckman): *Mutagenesis of HCMV gH/gL distinguishes different routes of viral entry.*

**Ian Chrisman**, Graduate Student (Smirnov): *Is ferryl a side-product or an intermediate in catalysis of L-tryptophan dioxygenation by human indoleamine 2,3-dioxygenase (hIDO1)?*

**Michael Kavanaugh**, Professor (Biomedical and Pharmaceutical Sciences): *Optical control of glutamate transport with a novel photoswitchable probe.*

**William Penny**, Graduate Student (Ross/Palmer): *Retention behavior of synthetic lipid nanodiscs in electrokinetic chromatography: correlation with octanol-water partition coefficients.*

**Mark Grimes**, Associate Professor (Division of Biological Sciences): *Cluster-filtered network analyses of post-translational modification signaling pathways in lung cancer cell lines.*

**Xiaobo Wang**, Graduate Student (Voronina): *LC8 Dynein Light Chain promotes localization and function of stem cell RNA regulator FBF-2 in C. elegans.*

**Sanaa AlAbbad**, Graduate Student (Ross): *Combined DFT/TDDFT Study of the Electronic Structure, Transe Influence, and Spectral Properties of of [RuH(CO)dcbpy(PPh3)2]<sup>+</sup> and its Deprotonated Form.*

**Haotian Lei**, Graduate Student (Bowler): *Not Available.*