SYSTEM SCIENCE RETREAT

Drug Discovery
Targeting Iron Metabolism

8:45 AM – 5:00 PM, March 18, 2019
Durham Research Center I – Auditorium (Rm 1002)
University of Nebraska Medical Center, Omaha, NE

"Molecular basis of iron homeostasis and its disorders: targets and opportunities"
Tomas Ganz, M.D. and Ph.D., *Professor*
School of Medicine, *University of California, Los Angeles*

"Managing metals in microbes: new insights from *Bacillus subtilis*"
John Helmann, PhD, *Professor*
Department of Microbiology, *Cornell University*

"Rapid evolution of a bacterial iron acquisition system"
Mark O'Brian, PhD, *Professor*
Department of Biochemistry, University at Buffalo

"Cellular mechanisms of export, trafficking, and exchange of protein and glutathione-complexed [2Fe-2S] clusters"
James A Cowan, PhD, *Professor*
Department of Chemistry and Biochemistry, *Ohio State University*

"Molecular determinants of iron homeostasis in *M. tuberculosis*"
G. Marcela Rodriguez, PhD, *Associate Professor*
Public Health Research Institute, *New* Jersey *Medical School*, *Rutgers University*

"A novel gallium-based antimicrobial strategy that targets gram-negative bacterial iron metabolism pathways"
Bradley Britigan, PhD and MD, *Professor*
Department of Pathology / Microbiology, University of Nebraska Medical Center

"Gallium nanoparticle against intracellular Mycobacterial growth"
Prabagaran Narayanasamy, PhD, *Assistant Professor*
Department of Pathology / Microbiology, University of Nebraska Medical Center

"A unique family of Fe-S cluster-based redox sensors in *Mycobacteria*"
Limei Zhang, PhD, *Assistant Professor*
Department of Biochemistry and Redox Biology Center, *University of Nebraska-Lincoln*

Event is free and open to the public
To register: 2019 System Science Retreat Registrion Form

For more information: Paula Adams; Email: aadams@unl.edu; Phone: 402-472-3173

DRUG DISCOVERY TARGETING IRON METABOLISM

SYSTEM SCIENCE RETREAT

Durham Research Center (DRC) I - Auditorium (Rm 1002)

University of Nebraska Medical Center, Omaha, NE

S 45th St, Omaha, NE 68106

March 18, 2019

8:15 - 8:45 AM	Registration at Durham Research Center I – auditorium (Rm 1002)
8:45 – 9:00 AM	Welcome by **Limei Zhang**, *University of Nebraska - Lincoln*
9:00-9:45 AM	**"Molecular basis of iron homeostasis and its disorders: targets and opportunities"** **Tomas Ganz, M.D. and Ph.D.**, *Professor* *School of Medicine*, *University of California, Los Angeles*
9:45 -10:30 AM	**"Managing metals in microbes: new insights from *Bacillus subtilis*"** **John Helmann, PhD**, *Professor* *Department of Microbiology*, *Cornell University*
10:30 – 10:50 AM	Coffee break
10:50 AM – 11:35 PM	**"Rapid evolution of a bacterial iron acquisition system"** **Mark O'Brian, PhD**, *Professor* *Department of Biochemistry, University at Buffalo*
11:35 - 11:55 PM	**"A unique family of Fe-S cluster-based redox sensors in Mycobacteria"** **Limei Zhang, PhD**, *Assistant Professor* *Department of Biochemistry and Redox Biology Center, University of Nebraska-Lincoln*
11:55 AM – 12:15 PM	**"Gallium nanoparticle against intracellular Mycobacterial growth"** **Prabagaran Narayanasamy, PhD,** *Assistant Professor* *Department of Pathology and Microbiology, University of Nebraska Medical Center*
12:15 – 1:15 PM	Lunch

1:15 – 2:00 PM	**“Cellular mechanisms of export, trafficking, and exchange of protein- and glutathione-complexed [2Fe-2S] clusters”** **James A Cowan, PhD**, *Professor* *Department of Chemistry and Biochemistry*, Ohio State University
2:00 – 2:45 PM	**"Molecular determinants of iron homeostasis in *M. tuberculosis*”** **G. Marcela Rodriguez, PhD**, *Associate Professor* *Public Health Research Institute*, *New Jersey Medical School*, *Rutgers University*
2:45 – 3:30 PM	**“A novel gallium-based antimicrobial strategy that targets gram-negative bacterial iron metabolism pathways”** **Bradley Britigan, PhD and MD,** *Professor* *Department of Pathology and Microbiology, University of Nebraska Medical Center*
3:30 – 4:00 PM	Coffee break
4: 00 – 5:00 PM	Round table discussion: challenges and opportunities in targeting iron metabolism for synergistic antimicrobial drug design.

- Lunch is free and provided to the pre-registered attendees
- Free parking is available at the UNMC Green Parking, next to the Durham Research Center.