MCW Center for Microbiome Research Seminar Series 2017-2018

Seminars are at 11:00AM in the Briggs & Stratton Auditorium at Children's Hospital of WI.

November 28, 2017

Sandra McLellan, PhD

Professor, School of Freshwater Sciences, University of Wisconsin – Milwaukee

The Urban Water Microbiome: People, Pipes, and Our Natural Environment

January 9, 2018

Federico Eugenio Rey, PhD

Assistant Professor, Bacteriology, University of Wisconsin – Madison

Dissecting Diet-Microbe Interactions and Their Impact to Health

March 20, 2018

Eugene Chang, MD

Martin Boyer Professor, Department of Medicine;
Assoc. Section Chief for Research, Section of Gastroenterology, Hepatology, and Nutrition, University of Chicago

Inflammatory Bowel Diseases Through the Lens of the UC Pouchitis Model

April 17, 2018

Rob Edwards, PhD

Professor, Computer Science & Biology, San Diego State University

Global Phylogeography and Ancient Evolution of the Widespread Human Gut Virus crAssphage

Co-sponsored by the Genomic Sciences & Precision Medicine Center

May 22, 2018

KC Huang, PhD

Associate Professor, Bioengineering, Microbiology & Immunology, and Biochemistry;
Director, Biophysics Program, Stanford University

Assessing the Response of the Microbiota to Environmental Perturbations

Contact Mary Holtz at mlholtz@mcw.edu or (414) 955-5467 with questions.

MEDICAL COLLEGE OF WISCONSIN
Center for Microbiome Research

MEDICAL COLLEGE OF WISCONSIN
MICROBIOLOGY & IMMUNOLOGY

Center for Microbiome Research Seminar Series

"The Urban Water Microbiome: People, Pipes, and Our Natural Environment"

Sandra McLellan, PhD
Professor, Univ. of Wisconsin - Milwaukee, School of Freshwater Sciences

November 28, 2017

11am – 12 noon

BSB 276
Department of Microbiology & Immunology seminar room

Dr. McLellan's research focuses on studying microbial communities in the urban environment and the implications for human and ecosystem health. Studies include determining the fate of pathogens in the Great Lakes and determining the causes of beach closings. Her laboratory uses next generation sequencing approaches to identify new indicators of pollution and pollution impacts. She graduated from the University of Wisconsin-Milwaukee in health sciences in 1990 and worked at Miller Brewing Company before entering graduate school. Dr. McLellan earned her graduate degree in environmental health at the University of Cincinnati College of Medicine in 1998.
(U.S. EPA's 2016 Recreational Waters Conference)

http://home.freshwater.uwm.edu/mclellanlab/

For questions, directions, or more information, please contact Mary Holtz 955-5467, (mlholtz@mcw.edu)

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MCW Center for Microbiome Research Seminar Series 2017 – 2018

"Dissecting Diet-Microbe Interactions and Their Impact to Health"

Federico Eugenio Rey, PhD
Assistant Professor
Dept. of Bacteriology
Univ. of Wisconsin – Madison

The overall goal of our research is to dissect diet by microbiota interactions that impact human health, so that therapeutic/preventive dietary recommendations can be made based on the metabolic potential of a subject's microbiome. Gut microbial metabolism of specific dietary components (e.g., choline, flavonoids) generates compounds that can impact cardiovascular diseases. The microbes responsible for such transformations and their representation in humans remain poorly characterized. Projects in my lab aim at identifying human gut bacterial species that transform some of these compounds, the genes involved in these processes, their regulation and their impact in the development of cardiovascular disease. Towards this end, we are using gnotobiotic mouse models of cardiovascular disease, bacterial genetics, transcriptional profiling and metabolomics.
https://www.cmp.wisc.edu/trainers/federico-eugenio-rey

January 9, 2018

11 am – 12 noon

BSB 276
Dept. of Microbiology
& Immunology seminar room

Contact Mary Holtz at mlholtz@mcw.edu or (414) 955-5467 with questions.

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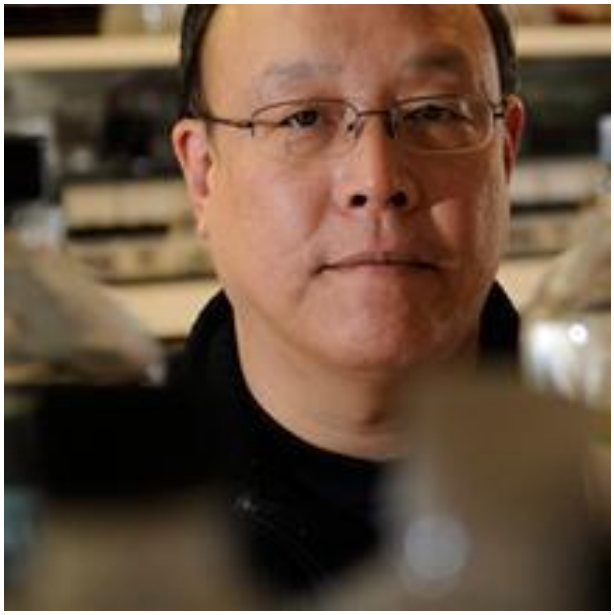

Eugene Chang, MD

Martin Boyer Professor, Dept. of Medicine; Assoc. Section Chief for Research, Sect. of Gastroenterology, Hepatology, and Nutrition
University of Chicago

March 20, 2018

11 am – 12 noon

Briggs & Stratton Auditorium
Children's Hospital of WI

Our efforts are directed towards gaining a better understanding of what factors are involved in the selection and assembly of intestinal microbes, and how they can be used to reshape the enteric microbiome to prevent and treat disease. The focus of my group is the study of host-microbe interactions in the context of human and mammalian systems and the bidirectional signaling processes that mediate these interactions. We employ cutting edge approaches that include cultivation-dependent and – independent technologies for microbial analysis, genetically modified and gnotobiotic mouse models, metabolic and functional measurements, and advanced bioinformatic tools to investigate both the host and the microbiome in order to address these questions.
http://changlab.uchicago.edu/

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"Global Phylogeography and Ancient Evolution of the Widespread Human Gut Virus crAssphage"

Rob Edwards, PhD
Professor, Computer Science & Biology
Dept. of Computer Science
San Diego State University

April 17, 2018

11 am – 12 noon

Briggs & Stratton Auditorium
Children's Hospital of WI

Our bioinformatics lab at San Diego State University is all about decoding life's best kept secrets. These secrets are encoded, as you must have already guessed, in genomes of bacteria, archaea, eukaryotes and the viruses that infect them. We use all kinds of computers, from clusters to cell phones, to solve the most unsolvable computational problems that help us better understand biology. We are funded by the National Science Foundation to explore phage genomes, to explore phage metagenomes (and the unknown genes in them), and to explore the connection of genotype to phenotype in microbial genomes.
https://edwards.sdsu.edu/research/

Co-sponsored by the Genomic Sciences & Precision Medicine Center (GSPMC)

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"Assessing the Response of the Microbiota to Environmental Perturbations"

KC Huang, PhD

Associate Professor, Bioengineering, Microbiology & Immunology;
Director, Biophysics Program
Stanford University

May 22, 2018

11 am – 12 noon

Briggs & Stratton Auditorium
Children's Hospital of WI

Although the mechanisms of bacterial proliferation have been a major focus of research for over a century, it has remained difficult to determine how cellular structure and organization are dynamically controlled due to the central—yet neglected—importance of physical factors. To address these knowledge gaps, our lab pursues research directions that span from the atomic to the multicellular scales. We investigate the physical nature of intracellular spatial organization, mechanics, and kinetics by leveraging top-down approaches based on cellular-scale observations, bottom-up approaches based on biophysical molecular observations, and computational modeling that connects the two paradigms. Understanding cellular growth and form remains a fascinating, multifaceted challenge with obvious implications for health and disease. In addition to the importance of bacteria as a model system for basic science, uncovering the general physical rules that underlie how bacteria grow and divide will have important applications for controlling bacterial communities and developing novel strategies in synthetic biology.
http://whatislife.stanford.edu/

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