The 2nd CMI International Microbiome Meeting
A Systemic Approach of Microbiome Knowledge

PROGRAM
March 3rd - 5th, 2020
Robert Paine Scripps Forum for Science
Scripps Institution of Oceanography

UC San Diego
#CIMM2020
We would like to thank each and every one of you for being part of the second CMI International Microbiome Meeting.

When we started CIMM in 2019, our goal was to make this a biennial event. But based on the success of the first edition, and the fast-moving pace of Microbiome research, we received feedback that this needed to be an annual one. And so, our 2nd annual CIMM event is now a reality.

In the past year, we have seen the Microbiome field continue its tremendous growth as a body of knowledge. At UC San Diego, we have been very active with our PIs and CMI industry partners on the development of new methods for studying microbiomes in our wet and dry labs to improve human health and benefit the environment. Another mission of ours is to give an international voice to all of the progress occurring across the globe and share the research happening around the world by so many brilliant minds through this CMI International Microbiome Meeting.

So buckle up and join us to hear about the environment, living creatures, and microbiome interactions as an integrative part of a bigger system that we need to observe and understand as a whole to better our scientific knowledge.

We hope that this meeting will intrigue, inspire, and indulge your microbiome interests and discoveries.

Sincerely,

Dr. Rob Knight
Faculty Director

Dr. Sandrine Miller-Montgomery
Executive Director
The Center for Microbiome Innovation leverages UC San Diego's world-class experts across multiple disciplines and access to all the latest omics tools. These include genomics, metagenomics, metatranscriptomics, metabolomics, multiplex proteomics, big data, and more to process hundreds of thousands of samples each year to analyze and gain insight of the data for some of the largest microbiome cohorts in the world.

Accelerating the impact of microbiome research means investing in opportunities to develop novel tools and methods for analyzing and manipulating microbiomes. It means partnering with stakeholders invested in ending diseases confounding conventional medicine, innovative environmental solutions, and transformative applications in personalized wellness.

What to expect this year:

The first two days feature high-impact presentations on the latest discoveries in microbiome sciences, with sessions switching back and forth between topics ranging from the microbiome in human disease and wellness to environmental and ocean microbiomes.

In the spirit of integrating environment and host-microbiome activities, this year’s CIMM is honored to have a co-master of the ceremony, Margaret McFall-Ngai, PhD.

The third day of this event is dedicated to the Urobiome. Leading researchers will present on this emerging science and its recently discovered implications for human health, focusing on common conditions such as urinary tract infection, urinary incontinence, and bladder overactivity.
Day 1
Tuesday, March 3

8:30 AM - 9:00 AM REGISTRATION/BREAKFAST
9:00 AM - 9:15 AM OPENING REMARKS
Rob Knight, PhD | Faculty Director
Sandrine Miller-Montgomery, PharmD, PhD | Executive Director
Center for Microbiome Innovation at University of California San Diego

9:15 AM - 10:00 AM KEYNOTE PRESENTATION
Microbial Ecology of Heritable Gut Microbiota
Ruth Ley, PhD | Director
MPI Developmental Biology, Germany

10:00 AM - 10:20 AM Host-Microbiome Interactions During Early Neurodevelopment
Elaine Hsiao, PhD | Assistant Professor
University of California Los Angeles

10:20 AM - 10:40 AM Microbiome Resilience
Ashley Shade, PhD | Assistant Professor
Michigan State University

10:40 AM - 11:10 AM BREAK

11:10 AM - 11:30 AM A Phylogenetic Trait Framework for Microbial Biogeography and Responses to Environmental Change
Jennifer Martiny, PhD | Professor
University of California Irvine

11:30 AM - 11:50 AM Metabolic Differentiation and Intercellular Nutrient Transport During Endospore Formation
Kit Pogliano, PhD | Dean, Division of Biological Sciences
University of California San Diego
11:50 AM - 12:10 PM  
*Dysbiosis is a Diseased Concept*  
Maureen O’Malley, PhD | Senior Researcher  
University of Sydney, Australia

12:10 PM - 12:30 PM  
*Personalizing Treatments Using Microbiome and Clinical Data*  
Eran Segal, PhD | Professor  
Weizmann Institute, Israel

12:30 PM - 2:00 PM  
LUNCH: Sponsored by Second Genome

2:20 PM - 2:40 PM  
*Comparative Skin Microbiome Research*  
Julie Horvath, PhD | Lab Head & Research Associate Professor  
NC Museum of Natural Sciences & NC Central University

2:40 PM - 3:00 PM  
*The Adjuvant Within*  
Yasmine Belkaid, PhD | Distinguished Investigator  
NIH

3:00 PM - 3:20 PM  
*Consequences from Perturbing the Early-Life Gut Microbiota*  
Martin Blaser, MD | Director  
Center for Advanced Biotechnology and Medicine, Rutgers University

3:20 PM - 3:30 PM  
SPONSOR PRESENTATION  
Illumina | New NGS tools for Microbiomics  
Kelly Hoon | Executive Sales Specialist, Microbiology

3:30 PM - 4:00 PM  
BREAK

4:00 PM - 4:20 PM  
*Contribution of Gut Fungi to Gut Microbiome Ecology and Early-Life Immune Development*  
Marie-Claire Arrieta, PhD | Assistant Professor  
University of Calgary, Canada
4:20 PM - 4:40 PM  
**What Doesn’t Kill You Makes You Stronger: Co-evolution of Bacteriophage Infecting Enterococcus from the Human Microbiome**  
Katrine Whiteson, PhD | Assistant Professor  
University of California Irvine

4:40 PM - 5:00 PM  
**The Microbiome in an Age of Anthropogenic Perturbations**  
Maria Gloria Dominguez-Bello, PhD | Professor  
Rutgers University

5:00 PM - 5:20 PM  
**Connecting the World's Metabolomics Data to Understand the Function of the Microbiome**  
Pieter Dorrestein, PhD | Director  
Collaborative Mass Spectrometry Innovation Center | UC San Diego

5:20 PM - 5:30 PM  
**REMARKS**  
Rob Knight, PhD | Faculty Director  
Sandrine Miller-Montgomery, PharmD, PhD | Executive Director  
Center for Microbiome Innovation at University of California San Diego

5:30 PM - 6:30 PM  
**RECEPTION: Sponsored by Labskin**
Day 2
Wednesday, March 4

8:30 AM - 9:00 AM  REGISTRATION/BREAKFAST
9:00 AM - 9:10 AM  REMARKS
Rob Knight, PhD | Faculty Director
Sandrine Miller-Montgomery, PharmD, PhD | Executive Director
Center for Microbiome Innovation at University of California San Diego

9:10 AM - 9:55 AM  KEYNOTE PRESENTATION
THOR: A Model Microbiome
Jo Handelsman, PhD | Director
Wisconsin Institute for Discovery at University of Wisconsin Madison

9:55 AM - 10:15 AM
Stress and Stability: Tracking How Microbiomes Variably Respond to Host and Environmental Disturbance
Rebecca Vega Thurber, PhD | Associate Professor
Oregon State University

10:15 AM - 10:35 AM
Teaming with Microbes: Lessons from the Zebrafish
Karen Guillemin, PhD | Philip H. Knight Chair & Professor
University of Oregon

10:35 AM - 11:05 AM  BREAK

11:05 AM - 11:25 AM
Early Life Microbial Encounters and Childhood Asthma
Susan Lynch, PhD | Professor
University of California San Francisco

11:25 AM - 11:45 AM
Milk & Microbes: How Breastfeeding Shapes the Infant Microbiome and Lifelong Health
Meghan Azad, PhD | Assistant Professor
University of Manitoba, Canada
11:45 AM - 12:05 PM
*The Microbiome of the Built Environment: A New Way of Looking at an Old Problem*
Jack Gilbert, PhD | Professor
Scripps Institution of Oceanography & University of California San Diego

12:05 PM - 12:25 PM
*Communicating Complexity: What Can Information Visualization Teach Us About Microbiome Reporting*
Naama Geva-Zatorsky, PhD | Assistant Professor
Technion, Israel

12:25 PM - 12:35 PM  SPONSOR PRESENTATION
Zymo | *Progress Towards Standardizing Metagenomics: Application of Metagenomic Reference Materials to Develop a Reproducible Microbial Lysis Methodology with Minimum Bias*
Dr. Michael M. Weinstein | Scientist

12:35 PM - 2:05 PM   LUNCH: Sponsored by GALT

2:05 PM - 2:25 PM
*The Relationship Between the Gut Microbiome and Metabolic Co-Morbidity in HIV-Infected and High Risk Populations*
Catherine Lozupone, PhD | Associate Professor
University of Colorado, Denver Anschutz Medical Campus

2:25 PM - 2:45 PM
*The Microbiome in Inflammatory Skin Diseases*
Heidi H. Kong, MD, MHSc | Investigator
NIAMS, NIH

2:45 PM - 3:05 PM
*What a Difference a 150 Years Makes: Nature as a Case Study of Changes in How Research Is Communicated*
Magdalena Skipper, PhD | Editor in Chief
Nature
3:05 PM - 3:25 PM  
*The Soil Microbiome - From Metagenomes to Metaphenomes*  
Janet Jansson, PhD | Chief Scientist & Laboratory Fellow  
Pacific Northwest National Laboratory

3:25 PM - 3:50 PM  
GROUP PICTURE

3:50 PM - 4:20 PM  
BREAK

4:20 PM - 4:40 PM  
*Pediatric Dietary Intake and Weight Status*  
Kyung (Kay) Rhee, MS, MSc, MA | Research Director  
Pediatric Hospital Medicine at University of California San Diego

4:40 PM - 5:00 PM  
*Human Skin Microbiome: Trans-Kingdom, Host-Immune Interactions*  
Julia Segre, PhD | Senior Investigator  
NIH/NHGRI

5:00 PM - 5:20 PM  
*The Marine Microbiome*  
William Fenical, PhD | Distinguished Professor  
Scripps Institution of Oceanography & University of California San Diego

5:20 PM - 5:30 PM  
REMARKS  
Sandrine Miller-Montgomery, PharmD, PhD | Executive Director  
Center for Microbiome Innovation at University of California San Diego

5:30 PM - 6:30 PM  
RECEPTION: Sponsored by Labskin
Thank you for making the time and effort to join like-minded investigators who are interested in the human urobiome. This conference focuses completely on the human urobiome. The goal of the UROBIOME 2020 conference is to advance human urobiome science. This year we will also draft some consensus statements to further advance this goal.

During UROBIOME 2020, we have a unique opportunity to educate each other, share best practices, coalesce around a set of core principles for human urobiome research and promote scientific practices that let urobiome investigators make the most of the research resources available to us. Conference attendees are a diverse group, including internationally known experts in microbiome sciences, trainees and interested lay individuals. We are so glad you are a part of this professional exchange.

During UROBIOME 2020, we will be thinking together about how can we use our knowledge and skills to find better ways to prevent, diagnose and treat human health conditions associated with changes in the urobiome.

We hope you will meet new people, expose yourself to new ideas and new ways of thinking, engage with your colleagues, share your expertise and talents freely, establish new collaborations and be full of new ideas at the end of the day.

Your presence and participation are greatly valued. Thank you for joining us for UROBIOME 2020!

With appreciation,

Linda Brubaker, MD
UROBIOME 2020 Conference Organizer
Professor of Obstetrics, Gynecology, and Reproductive Sciences
University of California San Diego
Day 3
Thursday, March 5

7:30 AM - 8:00 AM  REGISTRATION
8:00 AM - 8:10 AM  OPENING REMARKS
Linda Brubaker, MD, MS  Professor
University of California San Diego

8:10 AM - 8:35 AM
Beyond Sequencing: Community Characteristics
Rob Knight, PhD  Professor & Director
Center for Microbiome Innovation | UC San Diego

8:35 AM - 9:00 AM
Beyond Sequencing: 3D Mapping
Pieter Dorrestein, PhD  Director
Collaborative Mass Spectrometry Innovation Center | UC San Diego

9:00 AM - 9:50 AM  LABORATORY SCIENCE PANEL
MC: Alan Wolfe, PhD
Benchmarking Studies for Specimen Collection, Storage, & Analysis:
David Pride, MD, PhD
Bacteriophages in the Urobiome: Catherine Putonti, PhD
Microbial Interactions: Amanda Lewis, PhD

9:50 AM - 10:10 AM  Q&A

10:10 AM - 10:30 AM  BREAK

10:30 AM - 11:20 AM  CLINICAL SCIENCE PANEL
MC: Emily Lukacz, MD
Urothelial Cells in Clinical Practice: James Malone-Lee, PhD
UTI: Linda Brubaker, MD, MS
Urinary Incontinence & Overactive Bladder: Nazema Siddiqui, MD, MHS
Kidney Stones: Andrew Schwaderer, MD
Pediatric Urology: Douglas Storm, MD

11:20 AM - 11:40 AM  Q&A
11:40 AM - 11:50 AM
*Forming Consensus to Advance Urobiome Research*
Linda Brubaker, MD, MS | Professor
University of California San Diego

11:50 AM - 1:15 PM WORKING LUNCH
Concurrent Consensus Groups:
*Specimen Collection & Storage:*
David Pride, MD, PhD & Alan Wolfe, PhD

*Core Metadata & Urobiome Study Design:*
Emily Lukacz, MD & Nazema Siddiqui, MD, MHS

*Bioinformatic Approaches:*
Qunfeng Dong, PhD & Lisa Karstens, PhD

1:15 PM - 2:45 PM GROUP REPORTS, DISCUSSION, & DISSEMINATION PLANNING

2:45 PM - 3:00 PM BREAK

3:00 PM - 3:30 PM *Science Blitz*
Junior Investigators

3:30 PM - 4:00 PM *Beyond Bacteria*
Lenore Ackerman, MD, PhD | Assistant Professor
Cedars-Sinai Medical Center

4:00 PM - 4:30 PM *Modulating Microbiomes: Phage Therapy*
Robert Schooley, MD | Professor of Medicine
University of California San Diego

4:30 PM - 5:30 PM SOCIAL HOUR & NETWORKING
Rob Knight, PhD  
**Faculty Director**  
Center for Microbiome Innovation at University of California San Diego

Rob Knight is the Director of the Center for Microbiome Innovation at UC San Diego, where he is a Professor of Pediatrics, Bioengineering, and Computer Science & Engineering. He co-founded the Earth Microbiome Project, and the American Gut Project, which is among the largest crowdfunded science projects of any kind to date. He has spoken at TED and written three books and over 600 scientific articles. He was honored with the 2019 NIH Director’s Pioneer Award for his microbiome research and won the 2017 Massry Prize, often considered a predictor of the Nobel. His work combines microbiology, DNA sequencing, ecology and computer science to understand the vast numbers of microbes that inhabit our bodies and our planet.

Sandrine Miller-Montgomery, PharmD, PhD  
**Executive Director**  
Center for Microbiome Innovation at University of California San Diego

Dr. Sandrine Miller-Montgomery is co-leading the UC San Diego Center for Microbiome Innovation as executive director with Pr. Rob Knight. In this position, she is leading a team focused on fostering and expanding collaborations with both industry and academic partners. The mission of the CMI is to accelerate Microbiome discovery while creating innovative technologies that will support this emerging but exploding field in the consumer world, while also enabling major clinical breakthroughs. She is building the success of the center with a leadership team of scientific experts along with her own business expertise from her years in industry.

She comes directly from industry and has worked in large biotech and multinational companies as well as start-ups. Most recently, she was CEO of MO BIO Laboratories, a biotech company focused on nucleic acid purification solutions.

Sandrine received both her PharmD and her PhD in Life Science from the University of Bordeaux (France), with emphasis on molecular biology, biology of aging and thrombosis, and hemostasis.
MARGARET MCFALL-NGAI, PhD
Director of Pacific Biosciences Research Center
University of Hawaii at Manoa

Dr. Margaret McFall-Ngai is Professor and Director of the Pacific Biosciences Research Center at the University of Hawaii-Manoa. She has instituted the Center for Microbiome Analysis through Island Knowledge and Investigation (C-MAIKI) at UH-M, and is PI of the WM Keck Foundation’s environmental microbiome observatory and a Gordon and Betty Moore Foundation grant for the study of aquatic symbioses. McFall-Ngai is a pioneer in animal-bacteria symbiosis and microbiome studies, using bobtail squid as a model organism. She is a member of the American Academy of Microbiology (2002), the American Academy of Arts and Sciences (2011), and the National Academy of Sciences (2014). She is also a Howard Hughes Medical Institute Professor (2018-), and an ARCS Foundation Scientist of the Year.

McFall-Ngai’s research has combined training experiences in both organismal and molecular biology to develop two major focuses: host-bacterial symbiosis; and the ‘design’ of tissues that interact with light. The experimental strategy for both areas of research relies on methods that have been developed for the study of the squid-vibrio association over the past 30 years. In addition, she has a continuing interest in the history and development of the field of microbial symbiosis and its impact on biology; a focused effort in this area promises to drive an unprecedented integration across biology as a whole.
Marie-Claire Arrieta, PhD
Assistant Professor | University of Calgary

*Contribution of Gut Fungi to Gut Microbiome Ecology and Early-Life Immune Development*

Dr. Marie-Claire Arrieta is an Assistant Professor in the departments of Physiology, Pharmacology and Pediatrics of the University of Calgary. Her research examines the interactions between the early-life gut microbiome and the infant’s immune system. Her research program is framed around a translational approach, in which samples collected from children undergoing clinical care or enrolled in a birth cohort studies are used to characterize the microbial alterations (dysbiosis) associated with asthma and asthma risk. Her research group also examines the causality and mechanistic underpinnings of these associations in well-established mouse models of allergic airway inflammation, placing her work at the interface between clinical studies and experimental animal work.

As an advocate of science communication to the public, Dr. Arrieta has written a best-selling public book, *Let Them Eat Dirt*, and is involved in several science communication initiatives within Canada and abroad, including public talks, a second book and a documentary film project.

Meghan Azad, PhD
Assistant Professor | University of Manitoba

*Milk & Microbes: How Breastfeeding Shapes the Infant Microbiome and Lifelong Health*

Dr. Meghan Azad is an Assistant Professor of Pediatrics and Child Health at the University of Manitoba. She holds a Canada Research Chair in Developmental Origins of Chronic Disease and co-Directs the new Manitoba Interdisciplinary Lactation Centre (MILC). Her research program (www.azadlab.ca) is focused on the role of infant nutrition and gut microbiota in the development of asthma, allergies and obesity. Dr. Azad co-leads the Manitoba site of the CHILD Cohort Study (www.childstudy.ca), a national pregnancy cohort following 3500 children to understand how early life experiences shape lifelong health. She directs multiple projects related to infant feeding practices, human milk composition and the microbiome in the CHILD cohort and other populations, including preterm neonates receiving donor milk, and Bangladeshi infants at risk of malnutrition. Dr. Azad also leads collaborative projects examining perceptions of breastfeeding on social media, and developing methods to improve societal support for breastfeeding through school-based education programs.
Dr. Yasmine Belkaid obtained her PhD in 1996 from the Pasteur Institute in France on innate responses to Leishmania infection. Following a postdoctoral fellowship at NIAID on immune regulation during Leishmania infection, she joined the Children’s Hospital Research Foundation in Cincinnati as an assistant professor in 2002. In 2005, she joined the Laboratory of Parasitic Diseases as a tenure-track investigator. Since 2008, she has worked as an adjunct professor at the University of Pennsylvania.

Martin J. Blaser holds the Henry Rutgers Chair of the Human Microbiome at Rutgers University, where he also serves as Professor of Medicine and Microbiology, and as Director of the Center for Advanced Biotechnology and Medicine. Previously, he served as Chair of the Department of Medicine at New York University. A physician and microbiologist, Dr. Blaser has been studying the relationships we have with our persistently colonizing bacteria. His work over 30 years focused on Campylobacter species and Helicobacter pylori, which also are model systems for understanding the interactions of residential bacteria with their hosts. Over the last 20 years, he has also been actively studying the relationship of the human microbiome with health and important diseases including asthma, obesity, diabetes, and cancer. Dr. Blaser has served as the advisor to many students, post-doctoral fellows, and junior faculty, and as President of the Infectious Diseases Society of America, Chair of the Board of Scientific Counselors of the National Cancer Institute, and Chair of the Advisory Board for Clinical Research of the NIH. He currently serves as Chair of the Presidential Advisory Council for Combatting Antibiotic Resistant Bacteria (PACCARB). He was elected to the National Academy of Medicine and the American Academy for Arts and Sciences. He holds 28 U.S. patents, and has authored over 580 original articles. He wrote Missing Microbes, a book targeted to general audiences, now translated into 20 languages.
Maria Gloria Dominguez-Bello, PhD
Professor | Rutgers University

The Microbiome in an Age of Anthropogenic Perturbations

Maria Gloria Dominguez-Bello received her PhD from University of Aberdeen, Scotland. She worked at the Venezuelan Institute of Scientific Research in Venezuela, University of Puerto Rico, New York University School of Medicine, and is currently the Henry Rutgers Professor of Microbiome and Health at Rutgers University. She is fellow at the American Academy of microbiology, an at IDSA, belongs to the editorial board of several journals, and the Medal of Merit given by the Venezuelan Institute of Scientific Research. She and has over 135 publications in scientific journals and book chapters, and her current lab focus is on uses multidisciplinary approaches to study impacts of modern practices on the microbiome and strategies for restoration. She works on gradients of urbanization in South America, through global synergistic collaborations with scientists in Chile, Venezuela, Bolivia, Peru, Brazil, Tanzania, Spain, Belgium, Hong Kong and the US.

Pieter Dorrestein, PhD
Director | Collaborative Mass Spectrometry Innovation Center at University of California San Diego

Connecting the World’s Metabolomics Data to Understand the Function of the Microbiome

Dr. Dorrestein is a Professor at the University of California San Diego. He is the Director of the Collaborative Mass Spectrometry Innovation Center and a Co-Director, Institute for Metabolomics Medicine in the Skaggs School of Pharmacy & Pharmaceutical Sciences, and Department of Pharmacology. Since his arrival at UCSD in 2006, Dr. Dorrestein has been pioneering the development of mass spectrometry methods to study the chemical ecological crosstalk between the population of microorganisms, including host interactions for agricultural, diagnostic and therapeutic applications.
William Fenical, PhD  
*Distinguished Professor* | Scripps Institution of Oceanography  
& University of California San Diego

The Marine Microbiome

William Fenical (Bill) received his PhD in synthetic organic chemistry, and then joined the Scripps Institution of Oceanography (SIO), UC-San Diego, in 1973. Bill is currently Distinguished Professor of Oceanography and Pharmaceutical Science, and Founding Director of SIO’s Center for Marine Biotechnology and Biomedicine. Bill’s research interests have focused on the field of marine natural products chemistry. For the past 25+ years his interests have been to develop marine microbial resources for the utilization of marine microorganisms as a source for new drug discovery. His efforts have resulted in the advancement of two drugs, currently in phase III human trials for the treatment of glioblastoma brain and non-small cell lung cancers and the discovery of several potent new antibiotics. Bill has co-authored more than 480 papers in this field and has served on the advisory boards of 8 major journals.

Naama Geva-Zatorsky, PhD  
*Assistant Professor* | Technion

Communicating Complexity: What Can Information Visualization Teach us About Microbiome Reporting

Naama Geva-Zatorsky, Assistant Professor at the Technion, Faculty of Medicine. PhD, at the Weizmann Institute, Systems-Biology with Prof. Uri Alon, completed with honors and received the JFK, Teva and Barenholz awards. Postdoctoral studies, at Harvard Medical School, Mentor- Prof. Dennis Kasper and Profs. Benoist and Mathis. During her postdoc, in a collaborative effort, characterized the host response to ~60 different gut bacteria. She also applied metabolic labeling to enable, for the first time, visualization of anaerobic gut microbes, in real time, in association with the host.

In her lab, she is applying Systems-Biology thinking strategies with Microbiology, Immunology, metabolomics and bacteriophage biology to study the mechanistic interactions of the gut microbiota with mammalian host physiology in health and disease. Geva-Zatorsky recently received the Alon and Horev fellowships, the UNESCO-L’Oreal award, Human Frontiers, EMBO and Fulbright fellowships, the CIFAR-Azrieli Global Scholar award of the Humans & Microbiome Program and the Jonshon&Johnson WiSTEM2D award.
Jack Gilbert, PhD

Professor | Scripps Institution of Oceanography & University of California San Diego

*The Microbiome of the Built Environment: A New Way of Looking at an Old Problem*

Professor Jack A. Gilbert earned his PhD from Unilever and Nottingham University, UK in 2002, and received his postdoctoral training at Queens University, Canada. From 2005-2010 he was a senior scientist at Plymouth Marine Laboratory, UK; and from 2010-2018 he was a Professor of Surgery and Director of The Microbiome Center at University of Chicago and a group leader at Argonne National Laboratory. In 2019 he moved to University of California San Diego, where he is a Professor in Pediatrics and the Scripps Institution of Oceanography. He also holds the Yeoh Ghim Seng Visiting Professorship in Surgery at the National University of Singapore. Dr. Gilbert uses molecular analysis to test fundamental hypotheses in microbial ecology. He cofounded the Earth Microbiome Project and American Gut Project. He has authored more than 250 peer reviewed publications and book chapters on microbial ecology. He is the founding Editor in Chief of mSystems journal.

Karen Guillemin, PhD

*Philip H. Knight Chair & Professor | University of Oregon*

*Teaming with Microbes: Lessons from the Zebrafish*

Karen Guillemin is the Philip H. Knight Chair and Professor in the Department of Biology and the Institute of Molecular Biology at the University of Oregon. She is also the founding director of the Microbial Ecology and Theory of Animals (META) Center for Host-Microbe Systems Biology, established in 2012. Guillemin received her bachelor’s degree in Biochemical Sciences from Harvard College and her PhD from the Department of Biochemistry at Stanford University School of Medicine, where she worked with Dr. Mark Krasnow studying organ development in the model organism of the fruit fly. She continued her postdoctoral training at Stanford in the Department of Microbiology and Immunology with Dr. Stanley Falkow. Since joining the faculty of the University of Oregon, she has pioneered gnotobiotic models, including the zebrafish, to study host-microbe systems in animal development and disease.
Jo Handelsman, PhD
Assistant Professor | Wisconsin Institute for Discovery at University of Wisconsin Madison

THOR: A Model Microbiome

Dr. Jo Handelsman is the Director of the Wisconsin Institute for Discovery at the University of Wisconsin-Madison, a Vilas Research Professor, and Howard Hughes Medical Institute Professor. She previously served as a science advisor to President Barack Obama as the Associate Director for Science at the White House Office of Science and Technology Policy (OSTP) where she served for three years until January 2017, and was on the faculty at the University of Wisconsin and Yale University before that. She received her PhD at the University of Wisconsin-Madison in Molecular Biology and has since authored over 200 scientific research publications, 30 editorials, and 29 essays. She has authored numerous articles about classroom methods and mentoring and she is co-author of six books about teaching - Entering Mentoring and Scientific Teaching. She is responsible for groundbreaking studies in microbial communication and work in the field of metagenomics. She is also widely recognized for her contributions to science education and diversity in science. Notably, she received the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring from President Obama in 2011, and in 2012, Nature named her one of “ten people who mattered this year” for her research on gender bias in science.

Julie Horvath, PhD
Lab Head & Research Associate Professor | North Carolina Museum of Natural Sciences & NC Central University

Comparative Skin Microbiome Research

Julie Horvath is an Associate Research Professor at North Carolina Central University in the Department of Biological and Biomedical Sciences and is jointly appointed as the Head of the Genomics and Microbiology Research Lab at the North Carolina Museum of Natural Sciences. She holds adjunct appointments at NC State University and Duke University, and serves as an Associate Director for the Triangle Center for Evolutionary Medicine. Her research uses both comparative and evolutionary approaches to explore how daily habits and host genetics influence the microorganisms living on skin, and how the microorganisms, in turn, influence health and disease. She investigates the skin microbiota in humans and non-human primates and engages students and the public through her research.
Elaine Hsiao, PhD  
*Assistant Professor | University of California Los Angeles*

**Host-Microbiome Interactions During Early Neurodevelopment**

Elaine Hsiao is a scientist in the Department of Integrative Biology & Physiology, where she leads a laboratory studying basic mechanisms for interactions between the gut microbiome, brain and behavior. Research from the Hsiao lab has led to the development of microbiota-based interventions for treating gastrointestinal and behavioral symptoms of autism, regulating intestinal motility by controlling serotonin biosynthesis, and mediating the anti-seizure effects of the ketogenic diet. Their work in these areas have led to several honors, including the Chan Zuckerberg Initiative Ben Barres Career Acceleration Award, Packard Fellowship in Science and Engineering, Alfred P. Sloan Fellowship in Neuroscience, Klingenstein-Simons Fellowship in Neuroscience, Kavli Fellowship of the National Academy of Sciences, National Institutes of Health Director’s Early Independence Award, Forbes’ 30 Under 30 in Science and Healthcare and National Geographic’s Emerging Explorer Award.

Janet Jansson, PhD  
*Chief Scientist for Biology & Laboratory Fellow | Pacific Northwest National Laboratory*

**The Soil Microbiome: From Metagenomes to Metaphenomes**

Janet Jansson is a Chief Scientist and a Laboratory Fellow at the Pacific Northwest National Laboratory (PNNL). She obtained her PhD at Michigan State University in 1988 and established a science career in Sweden from 1988 - 2007. She was a senior scientist at Lawrence Berkeley National Laboratory from 2007-2014 and moved to PNNL in 2014. Her research focuses on the study of complex microbiomes in soil and the human gut. Jansson is Past President of the International Society for Microbial Ecology (ISME) and a Fellow of the Washington State Academy of Science and the American Academy of Microbiology and she serves on numerous national and international advisory panels. She was one of the highest cited researchers (top 1%) in 2016 and 2018 and has more than 200 publications.
Heidi H. Kong, MD, MHSc
Investigator | NIAMS, NIH

*The Microbiome in Inflammatory Skin Diseases*

Dr. Kong is Head of the Cutaneous Microbiome and Inflammation Section and Investigator in the Dermatology Branch, NIAMS, NIH. She received her undergraduate degree in biological sciences from Stanford University and earned her medical degree from the Baylor College of Medicine. She completed her dermatology residency at Duke University Medical Center and clinical research fellowship training in the Dermatology Branch, NCI and the Duke-NIH Master’s Program in Clinical Research. Her research on the human microbiome focuses on understanding host-microbial relationships, particularly of human skin.

Ruth Ley, PhD
Director | MPI Developmental Biology

*Microbial Ecology of Heritable Gut Microbiota*

Ruth Ley received a BA in Integrative Biology from the University of California at Berkeley in 1992, a PhD from the University of Colorado, Boulder, and a NRC-NASA Fellowship for post-doctoral work with Norm Pace at CU Boulder. Ruth and Rob Knight were post-docs at the same time, in different labs. She moved to Washington University School of Medicine to work with Jeff Gordon on the human and animal microbiome in 2004, and kept in touch with Rob, which turned out very fruitful. In July 2008, Ruth joined the Department of Microbiology at Cornell University as an Assistant Professor, and in 2013 became an Associate Professor with tenure in the Department of Molecular Biology and Genetics at Cornell. She has been Director of the Department of Microbiome Science at the Max Planck Institute for Developmental Biology in Tübingen since July 2016.
Catherine Lozupone, PhD
Associate Professor | University of Colorado, Denver Anschutz Medical Campus

*The Relationship Between the Gut Microbiome and Metabolic Co-Morbidity in HIV-Infected and High Risk Populations*

Dr. Lozupone is as Associate Professor in the Department of Medicine at the University of Colorado Anschutz Medical Campus. Her research focuses on the complex community of microorganisms that inhabit the gastrointestinal tract. She has been heavily involved in the development of popular computational tools for microbial community analysis, such as the UniFrac algorithm for comparing microbial diversity among many samples using phylogenetic information. Dr. Lozupone currently runs an R01 funded research group that integrates integrative bioinformatics analysis of multi'omic data with experimental confirmation. Her lab is currently working to understand microbiome composition and function in a variety of disease contexts, with an emphasis on the interaction between the gut microbiome, local and systemic immune phenotypes, and metabolic and lung co-morbidity in HIV-infected individuals.

Susan Lynch, PhD
Professor | University of California San Francisco

*Early Life Microbial Encounters and Childhood Asthma*

Dr. Lynch received her undergraduate and graduate degrees in Microbiology from University College Dublin, Ireland, before performing her postdoctoral research as a Dean’s Fellow at the Department of Microbiology and Immunology at Stanford University. She is currently Professor in the Division of Gastroenterology at the University of California San Francisco, where she also Directors the Colitis and Crohn's Disease Microbiome Research Core. Dr. Lynch's research program focuses on the human microbiome and chronic inflammatory disease, with a focus on childhood asthma and adult ulcerative colitis.
Jennifer Martiny, PhD
Professor | University of California Irvine

A Phylogenetic Trait Framework for Microbial Biogeography and Responses to Environmental Change

Jennifer Martiny is a Professor of Ecology and Evolutionary Biology at the University of California Irvine. She received her BS in Ecology, Behavior, and Evolution at UC San Diego and her PhD at Stanford University. Her research aims to uncover fundamental principles of the generation and maintenance of diversity in microbial communities. To do this, she brings together perspectives from microbiology, ecology, and evolutionary biology. Her work has contributed to the establishment of the field of microbial biogeography and to understanding how microbial communities respond to environmental change. Dr. Martiny is a fellow of the Ecological Society of America and the American Academy of Microbiology.

Maureen O’Malley, PhD
Senior Researcher | University of Sydney

Dysbiosis is a Diseased Concept

Maureen O’Malley does philosophy and history of microbiology and microbiome research at the University of Sydney. She is particularly interested in the causality of microorganisms. http://www.maureenomalley.org/
Kit Pogliano, PhD  
Dean, Division of Biological Sciences | University of California San Diego

**Metabolic Differentiation and Intercellular Nutrient Transport During Endospore Formation**

Dean Kit Pogliano’s research entails developing new cell biological and genome engineering methods and using them to understand the design principles for bacterial cells and to discover new antibiotics to treat drug resistant bacterial infections. She received her PhD from the Department of Microbiology and Molecular Genetics at Harvard Medical School and was a Damon Runyon-Walter Winchell postdoctoral fellow at Harvard University. She is a recipient of the Searle Scholar and Beckman Young Investigator Awards and is a Fellow of the American Academy of Microbiology. She joined the UC San Diego faculty in 1996 and is a Professor in the Section of Molecular Biology in the Division of Biological Sciences and former Dean of the Graduate Division (2017-2018). On September 15, 2018, she became the first female Dean of Biological Sciences at UC San Diego.

Kyung (Kay) Rhee, MS, MSc, MA  
Research Director | Pediatric Hospital Medicine at University of California San Diego

**Pediatric Dietary Intake and Weight Status**

Dr. Rhee is a pediatric hospitalist with special interest in childhood eating and weight related disorders. She obtained her bachelor’s degree in Human Biology and Masters in Sociology at Stanford University. She then completed medical school at Temple University School of Medicine, and her pediatric residency and chief residency at St. Christopher’s Hospital for Children. In order to gain skills in clinical research, she completed a T32 fellowship in General Academic Pediatrics at Boston University and obtained her Masters in Epidemiology at the Boston University School of Public Health. Currently, she conducts research on the behavioral, cognitive and biologic factors contributing to the development and management of childhood obesity and other childhood eating disorders. She has multidisciplinary training in pediatric hospital medicine, childhood obesity, eating disorders, behavior modification therapy, parent-child interactions, parenting skills training, motivational interviewing, epidemiology, and social psychology. Her work focuses on identifying novel targets for obesity prevention and treatment including, parenting styles, parent feeding behaviors, child eating behaviors, executive functioning, genetic and epigenetic influences, and gut peptides and the microbiome.
Eran Segal, PhD  
*Professor* | Weizmann Institute

**Personalizing Treatments Using Microbiome and Clinical Data**

Eran Segal is a Professor at the Department of Computer Science and Applied Mathematics at the Weizmann Institute of Science, heading a lab with a multi-disciplinary team of computational biologists and experimental scientists in the area of Computational and Systems biology. His group has extensive experience in machine learning, computational biology, probabilistic models, and analysis of heterogeneous high-throughput genomic data. His research focuses on Microbiome, Nutrition, Genetics, and their effect on health and disease. His aim is to develop personalized nutrition and personalized medicine.

Prof. Segal published over 140 publications, and received several awards and honors for his work, including the Overton prize, awarded annually by the International Society for Bioinformatics (ICSB) to one scientist for outstanding accomplishments in computational biology, and the Michael Bruno award. He was recently elected as an EMBO member and as a member of the young Israeli academy of science.

Julia Segre, PhD  
*Senior Investigator* | NIH/NHGRI

**Human Skin Microbiome: Trans-Kingdom, Host-Immune Interactions**

Julie Segre, PhD is a Senior Investigator at the National Human Genome Research Institute, NIH. Segre received her BA in Mathematics from Amherst College, her PhD in Genetics from M.I.T. (advisor: Eric Lander, PhD) and postdoctoral training in skin biology at Univ. of Chicago (advisor: Elaine Fuchs, PhD). She has been an investigator at NHGRI, NIH since 2000, receiving tenure in 2007. Segre’s research has defined the normal human skin bacterial, fungal and viral communities, enabling studies of alterations associated with pediatric atopic dermatitis, primary immunodeficiency and emerging pathogens. Segre’s research also focused on integrating whole genome sequencing of hospital pathogens both to study nosocomial transmission and to develop a national reference database. Segre’s research integrates DNA sequence technology, algorithm development and clinical studies to explore the diversity of microbes in and on humans in health and disease.
SPEAKERS

Ashley Shade, PhD
Assistant Professor | Michigan State University

Microbiome Resilience

Dr. Ashley Shade received her PhD from the University of Wisconsin in 2010, and afterwards was a Gordon and Betty Moore Foundation postdoctoral fellow of the Life Sciences Research Foundation at Yale University. In 2014, she started her position in the Department of Microbiology and Molecular Genetics at Michigan State University. In her research program, she seeks to understand the resilience of microbial communities (microbiomes). Resilience is the capacity of a system to recover after it has been altered by a disturbance. Her lab employs ‘omics tools with both field and laboratory studies. She has funded research projects on microbial ecology in extreme environments, plant-microbiome interactions and coupled resilience, and how microbial interactions support resilience. She is member of the International Society for Microbial Ecology, the Ecological Society for America, and the American Society for Microbiology. She serves as an editor at the American Society for Microbiology journal mSystems and the journal Ecology Letters. She is an Ecological Society for America Early Career Fellow.

Magdalena Skipper, PhD
Editor in Chief | Nature

What a Difference a 150 Years Makes: Nature as a Case Study of Changes in How Research Is Communicated

Dr Magdalena Skipper is Editor in Chief of Nature and Chief Editorial Advisor for Nature Research. She is a geneticist by training and has considerable editorial and publishing experience: having started in Nature Publishing Group in 2001, she was Chief Editor of Nature Reviews Genetics, Senior Editor for genetics and genomics at Nature, Executive Editor for the Nature Partner Journals and more recently she was Editor in Chief of Nature Communications. She studied sex determination at the MRC Laboratory of Molecular Biology, Cambridge, UK, and Notch signalling in the vertebrate gut epithelium at the ICRF Laboratories (CRUK today), London. She is passionate about mentorship, transparent science and clarity in science communication. She has a keen interest in innovation in science publishing.
Rebecca Vega Thurber, PhD
Associate Professor | Oregon State University

Stress and Stability: Tracking How Microbiomes Variably Respond to Host and Environmental Disturbance

Dr. Rebecca (Becky) Vega Thurber is an Associate Professor of Microbiology. She has been teaching microbiology and conducting research on marine microbial ecology at Oregon State University since 2011. Her lab investigates the role and dynamics of bacteria and viruses in marine hosts and habitats in order to better understand the proximate causes of disease, habitat degradation, and ecosystem alteration. In 2016, she won Oregon State University’s Scholar of the Year Award. Dr. Vega Thurber graduated from University of California, Santa Cruz, in 1999, receiving degrees in Molecular, Cellular, Developmental Biology (MCB) and Marine Biology. In 2005 she received her PhD from Stanford University in Biological Sciences. She conducted her NSF postdoctoral fellowship work on bacterial and viral metagenomics in the laboratory of Dr. Forest Rohwer at San Diego State University. She is an author on more than 80 scientific publications and 3 book chapters and has also been actively involved in communicating science to broader audiences including help produce a full length documentary on coral reef decline entitled, Saving Atlantis.

Katrine Whiteson, PhD
Assistant Professor | University of California Irvine

What Doesn’t Kill You Makes You Stronger: Co-Evolution of Bacteriophage Infecting Enterococcus from the Human Microbiome

Dr. Katrine Whiteson is an Assistant Professor at University of California Irvine and the Associate Director of the recently launched UCI Microbiome Initiative. She studied Biochemistry at UC Berkeley (BA, 2000) and University of Chicago (PhD, 2007). She first had the opportunity to study human-associated microbes at the University of Geneva Hospitals in 2008, and further developed her microbiome metagenomics and phage interest as a post-doc in Forest Rohwer’s lab at San Diego State University. Her lab at UCI studies the human microbiome in health and disease. This has them hunting for bacteria, fungi and viruses in feces, sewage, sputum and other well-loved samples - the students are brave! Their favorite study designs are longitudinal, and they use metabolomics and sequencing along with in vitro culturing and experimental evolution to study the microbes, their metabolites.
Urobiome

ORGANIZER & SPEAKER INFORMATION
Linda Brubaker, MD, MS
Professor
University of California San Diego

Linda Brubaker, MD, MS is a board-certified specialist in Female Pelvic Medicine and Reconstructive Surgery working at the University of California San Diego. Dr. Brubaker is a prolific researcher with well over 300 publications and multiple NIH awards including an R01 and a PI within the NIDDK PLUS Research Consortium. Her current research focus is the human urobiome, recurrent UTI and bladder health. She is an Associate Editor for JAMA and the Editor in Chief for the Journal of Female Pelvic Medicine and Reconstructive Surgery. Dr. Brubaker served as the Dean of the Loyola University Chicago Stritch School of Medicine for 5 1/2 years. She has chaired the International Consultations on Incontinence committees on Pelvic Organ Prolapse (2006, 2009) and Research (2012, 2016). She has served as the president (and program chairs) of both the American Urogynecologic Society as well as the Society of Gynecologic Surgeons. She served as the Division Director for the subspecialty division in Female Pelvic Medicine and Reconstructive Surgery for the American Board of Obstetrics and Gynecology. Dr. Brubaker earned a BA, with honors, from the University of Illinois at Chicago and a Master of Science degree (2004) in Clinical Research Design and Statistical Analysis from the University of Michigan. She received her medical degree and completed her medical training (medical school, residency and fellowship) at Rush University. Dr. Brubaker has received multiple awards which include the Lifetime Achievement Award (American Urogynecologic Society), induction into AOA (2013), Alpha Sigma Nu, the Jesuit Honor Society, the 2007 APGO Excellence in Teaching Award, the 2003 Rush Medical College Distinguished Alumnus Award and the various Faculty Teaching Awards.
Lenore Ackerman, MD, PhD
Assistant Professor | Cedars-Sinai Medical Center

Dr. A. Lenore Ackerman was born in Los Angeles, CA, but grew up in cities throughout the U.S. from southern California to Maine. She settled in New Haven, CT, where she earned a degree in Molecular Biophysics and Biochemistry at Yale University. She continued at Yale to complete a PhD in Immunology, focusing on molecular mechanisms of antigen presentation in dendritic cells. After realizing a desire to pursue translational medicine, she joined the Medical Scientist Training Program at Yale, receiving an M.D. degree. She completed her internship in General Surgery and began residency in Urology at the University of California, Los Angeles. During residency, under the mentorship of Dr. Larissa Rodriguez, her research focused on central nervous system changes in an animal model of interstitial cystitis induced by psychological stress. After the completion of residency, she continued on at UCLA as a fellow in Pelvic Medicine and Reconstructive Surgery. Her current research focuses on the role of host-microbe interactions in the etiology of benign lower urinary tract disorders. She now specializes in the treatment of men and women with incontinence, voiding dysfunction and pelvic floor disorders at Cedars-Sinai Medical Center in Los Angeles.

Qunfeng Dong, PhD
Director | Center for Biomedical Informatics at Loyola University Chicago

Qunfeng Dong, PhD, is the director of the Center for Biomedical Informatics and an associate professor in the Department of Public Health Sciences at the Stritch School of Medicine, Loyola University Chicago. After earning his PhD in biochemistry in 2000 from Iowa State University (ISU), he completed his postdoctoral training in computational biology in the ISU mathematics department by developing algorithms for protein structural computation. From 2001 to 2006, he was a research scientist at ISU, working on NSF-funded projects to develop bioinformatics databases and analysis tools for genomics data. From 2006 to 2009, he served as the bioinformatics director of the Center for Genomics and Bioinformatics at Indiana University. In 2010, he joined the University of North Texas (UNT) as an assistant professor in the Biological Sciences and Computer Science & Engineering departments, and he became an associate professor with tenure in 2014 at UNT. He joined the faculty of the Stritch School of Medicine in January of 2015. His main research interests focus on genomics and metagenomics data analysis, developing bioinformatics & biostatistical methods, mining electronic medical records, and building integrative biological databases. Dr. Dong led bioinformatics data analyses for the first discoveries of urinary microbiome in both male and female with collaborators at Indiana University and Loyola University Chicago, respectively.
Dr. Lisa Karstens is an Assistant Professor at Oregon Health & Science University in the Departments of Medical Informatics and Clinical Epidemiology (Division of Bioinformatics and Computational Biomedicine) and Obstetrics and Gynecology (Division of Urogynecology). She completed her PhD training at Princeton University and postdoctoral fellowships in bioinformatics and urogynecology at Oregon Health & Science University. Her research interests include using neuroimaging, metabolomics, and microbiome bioinformatics to better understand human disease, with a strong focus on developing computational techniques to optimize the information gained from those techniques to understand bladder disorders.
Rob Knight, PhD  
*Faculty Director* | Center for Microbiome Innovation at the University of California San Diego

Rob Knight is the Director of the Center for Microbiome Innovation at UC San Diego, where he is a Professor of Pediatrics, Bioengineering, and Computer Science & Engineering. He co-founded the Earth Microbiome Project, and the American Gut Project, which is among the largest crowdfunded science projects of any kind to date. He has spoken at TED and written three books and over 600 scientific articles. He was honored with the 2019 NIH Director’s Pioneer Award for his microbiome research and won the 2017 Massry Prize, often considered a predictor of the Nobel. His work combines microbiology, DNA sequencing, ecology and computer science to understand the vast numbers of microbes that inhabit our bodies and our planet.

Amanda Lewis, PhD  
*Associate Professor* | Washington University in St. Louis

Amanda Lewis is an Associate Professor of Molecular Microbiology and Obstetrics and Gynecology at Washington University School of Medicine. Her research program blends two research areas, glycobiology and women’s infectious disease, to explore concepts in mutualism and pathogenesis. She has held several NIH grants and has been recognized by investigator awards from the International Glycoconjugate Organization, March of Dimes, Burroughs Wellcome Foundation, and most recently as a Distinguished Investigator by Washington University.
Emily Lukacz, MD

Professor | University of California San Diego

Dr. Emily Lukacz completed her undergraduate degree at Johns Hopkins University, her medical degree at the University of Michigan, and both her Ob/Gyn residency training and Female Pelvic Medicine and Reconstructive Surgery (FPMRS) fellowship training at UC San Diego in 2003. She has been on faculty at UCSD since completing her training and is currently the division director and fellowship program director for FPMRS at UCSD. She serves as chair of the Institutional Review Board at UCSD, and has a Masters in Advanced Studies in Clinical Research from UCSD. Her research expertise spans from survey development, instrument validation, and population-based research on the epidemiology of pelvic floor disorders to clinical trials research networks and transdisciplinary prevention science. She has extensive experience as a co-investigator within several NIH clinical trial networks, including the Pelvic floors Disorders Network (PFDN), the Urinary Incontinence Treatment Network (UITN) and as a sub-investigator for the Interstitial Cystitis Clinical Research Network (ICCRN). She is also PI of the UCSD clinical site for the NIDDK sponsored Prevention of Lower Urinary tract Symptoms (PLUS) consortium. She has been actively involved in protocol development, subject recruitment, administration of study procedures, data collection and in the interpretation and write up of results for many trials within these networks. Her experience in urobiome research includes protocol development work group membership and implementation of the Vaginal and Urinary Microbiome Study in Women with Mixed Urinary Incontinence (HMS- ESTEEM) within the PFDN and local development and implementation of the Vaginal Estrogen for the Prevention of Recurrent Urinary Tract Infection (rUTI) in Postmenopausal Women.

James Malone-Lee, PhD

Emeritus Professor | University College London

James Malone-Lee qualified from St. Thomas’ Hospital, London in 1975. He served with the Royal Army Medical Corps until 1981 when he moved to University College London as a lecturer in geriatric medicine. He was appointed senior lecturer in 1984 and promoted to a personal chair during 1994. In 1996 he was appointed to the Barlow Chair of Geriatric Medicine. In 1999 he was posted to the Whittington Campus of UCL Medical School as Professor of Medicine for that site. He was appointed Emeritus Professor of Medicine UCL in 2016. During thirty-eight years he has worked as a clinical scientist focusing on common lower urinary tract symptoms. His particular interest has been on the diagnosis and treatment of chronic urinary tract infection, chronic bladder pain and so called “Interstitial cystitis”. He continues to participate in the research programme at UCL.
David Pride, MD, PhD

*Associate Adjunct Professor* | University of California San Diego

Dr. Pride received his undergraduate degree in biology from Wake Forest University and entered the MSTP program at Vanderbilt University. He received his PhD in Microbiology and Immunology from Vanderbilt University in the laboratory of Dr. Martin Blaser and completed his MD at New York University. He finished his medical residency at Massachusetts General Hospital in Internal Medicine, and a fellowship in Infectious Diseases at Stanford University. He then moved to the University of California San Diego and serves as the director of the Clinical Molecular Microbiology Laboratory and as the associate director of the Microbiology Laboratory. He also runs a research laboratory dedicated to human microbiome and human virome work. Dr. Pride also collaborates with the Center for Innovative Phage Applications and Therapeutics at UC San Diego and has been working to understand how we might better understand the interactions between phages and their host bacteria for phage therapy. Dr. Pride’s other major interests are in developing diagnostic tests for infectious diseases, and in understanding the role of microbial communities in human health and disease.

Catherine Putonti, PhD

*Professor* | Loyola University of Chicago

Dr. Catherine Putonti is a Professor in the Departments of Biology, Computer Science, and Microbiology and Immunology at Loyola University Chicago where she is also the Director of the Bioinformatics Program. Her primary research interests are in bacteriophage ecology, evolution, and genomics, investigating complex communities from freshwater environments to the human microbiome. She uses a combination of computational and molecular methods in her research.
Robert Schooley, MD
Professor | University of California San Diego

Dr. Schooley completed medical school and an internal medicine residency at Johns Hopkins and infectious disease fellowships at the NIH and Massachusetts General Hospital. He joined the faculty of Harvard Medical School in 1981. His early research efforts were directed at the pathogenesis and therapy of HIV-1 infection.

He became Head of the Division of Infectious Diseases at the University of Colorado in 1990. He led the NIH’s AIDS Clinical Trials Group (ACTG) from 1995 until 2002 during which time the ACTG performed many of the seminal studies that defined modern antiretroviral chemotherapy. He then led the ACTG in its expansion from a domestic US research operation into one with a global reach.

He served as Head of UCSD’s Infectious Diseases Division until 2017. More recently, he has become interested in the use of viruses as therapeutic agents – namely the use of bacteriophages to treat multidrug resistant bacterial infections.

Andrew Schwaderer, MD
Professor | Indiana University

Dr. Andrew Schwaderer is a Professor of Pediatrics at Indiana University School of Medicine and is a practicing Pediatric Nephrologist. Dr. Schwaderer received his medical degree at the Ohio State University College of Medicine and received his medical degree. He moved to Helen Devos Children’s Hospital for Pediatric Residency with Michigan State University. He practiced as a Community Pediatrician in Fort Wayne, Indiana, before finishing a Pediatric Nephrology Fellowship at the University of Rochester with a research focus on the renal collecting duct physiology. After fellowship, Dr. Schwaderer became a Clinical Assistant Professor at Nationwide Children’s Hospital. Dr. Schwaderer investigates kidney stone pathophysiology and renal innate immunity at the tubular level.
Nazema Siddiqui, MD, MHS
Associate Professor | Duke University

Dr. Siddiqui is an Associate Professor in the Department of OB/GYN, Division of Urogynecology & Reconstructive Pelvic Surgery at Duke University in Durham, North Carolina. She studies the translational biology of urologic disorders that are common in aging women, such as overactive bladder and recurrent urinary tract infections. As such, her research team is studying the impact of the urinary microbiome on multiple urologic conditions. In her role as a clinician-scientist, she aims to bring a high level of rigor to all areas of translational urobiome research including the collection of clinical data and potentially confounding variables, incorporation of clinical or other metadata into analytic plans, and effective collaboration with quantitative scientists to achieve the most informative results.

Douglas Storm, MD
Clinical Associate Professor | University of Iowa Hospitals and Clinics

Dr. Douglas W. Storm is Clinical Associate Professor of Urology at the University of Iowa Hospitals and Clinics and the Children’s Hospital of Iowa.

After obtaining a four scholarship from the U.S. Navy, Dr. Storm earned his medical degree from Rush Medical College in 2000. He then completed a one-year surgical internship at the Bethesda Naval Medical Center before serving as a General Medical Officer onboard the aircraft carrier, the USS John F. Kennedy in Mayport, Florida. After two years of naval service, he then completed his residency in urology at Geisinger Medical Center. He went on to a pediatric urology fellowship at Nationwide Children’s Hospital from 2008-12. Afterwards he completed his military commitment by serving as the Director of Pediatric Urology at the Naval Medical Center, San Diego from 2010-2012. After departing the Navy, he accepted a position at the University of Iowa as a member of the Department of Urology faculty.

Dr. Storm’s particular areas of research interest include pediatric urinary tract infections, vesicoureteral reflux, the urinary microbiome, minimally invasive surgery and robotic-assisted surgery.
Alan Wolfe PhD is a Professor of Microbiology and Immunology at Loyola University Chicago. He co-founded the Loyola Urinary Education and Research Collaborative (LUEREC) and directs the Loyola Genomics Facility.

He obtained his MS in Systems Engineering and PhD in Genetics from the University of Arizona. He Post-Doc'd at the California Institute of Technology and Harvard University. He was Loyola’s Graduate Faculty of the Year in 2007 and Loyola’s Faculty of the Year in 2016. He is a Fellow of the American Academy of Microbiology.

Dr. Wolfe’s research interests include both basic and translational science. As a basic scientist, he helped to discover that bacteria acetylate their proteins. As a translational scientist, he leads Luerrec, which debunked the “bladder is sterile” dogma. He has authored or coauthored more than 140 peer-reviewed publications. He has been funded by the NIH, NSF, DOE, DOD, and several foundations and companies.
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