ORAL PROGRAM

THURSDAY, JULY 23, 2020	
0900–1700	**Preconference Workshops**
I	**Anaerobic Identification & Susceptibility Testing Methods** **Diane M. Citron, Mike Cox**
II	**Examining Anaerobes in the Microbiome: Metagenomic & Culture Approaches** **Laura M. Cox PhD, Casey M. Theriot, PhD, Anna M. Seekatz, PhD**
1800	ASA Mixer

FRIDAY, JULY 24, 2020	
0700	Registration, Breakfast, Exhibits
0820	Welcome: David N. Fredricks, MD **I: Keynote: Colon Cancer and the Gut Microbiota** **Wendy S. Garrett, MD, PhD** *Harvard University, Boston, MA USA*
0930	Break, Exhibits
II: The Gut-Brain Axis: How Anaerobes Affect Neurological Development and Disease Moderator: Cynthia Sears, MD	
0945	**Fecal Microbiota Transplant for Autism** **Rosa Krajmalnik-Brown, PhD** *Arizona State University, Tempe, AZ USA* **Functional Roles for Gut Microbes in Amyloid Disease** **Timothy Sampson, PhD** *Emory University, Atlanta, GA USA* **Link Between *Porphyromonas gingivalis* and Alzheimer's Disease** **Jan S. Potempa, PhD, DSc** *University of Louisville, Louisville, KY USA* **The Intestinal Microbiota Influences Alzheimer's Disease Pathogenesis by Modulating Immunity and Amyloid-beta Processing in the Brain** **Laura M. Cox, PhD** *Harvard Medical School, Boston, MA USA* **The Role of Anaerobes in the Pathogenesis of Chronic Rhinosinusitis (CRS)** **Do-Yeon Cho, MD** *University of Alabama, Birmingham, Birmingham, Al USA* **Anaerobic Mucin Degradation as a Bacterial Phenotype Associated with Chronic Rhinosinusitis** **Sarah Lucas** *University of Minnesota, Minneapolis, MN USA*

1145–1330 Lunch, Exhibits, Student Presentations
1230–1330 Poster Session I

1530 Break, Exhibits

III: Fusobacteria
Moderator: Yiping W. Han, PhD

1330 ***Fusobacterium necrophorum* Pharyngitis and Its Complications**
Robert M. Centor, MD, MCAP
University of Alabama, Birmingham, AL USA

Experimental Approaches to Identify Virulence Determinants in *Fusobacterium nucleatum*
Hung Ton-That, PhD
University of California, Los Angeles, CA USA

***Fusobacterium nucleatum* in Colorectal Cancer**
Yiping W. Han, PhD
Columbia University, New York, NY USA

***Fusobacterium* Signalling In Disease-Associated Oral Biofilms**
Sarah A. Kuehne, PhD
University of Birmingham, United Kingdom

***Fusobacterium nucleatum* interacts with *Clostridium difficile* in the Intestinal Mucus Layer**
Melinda Engevik, PhD
Baylor College of Medicine, Houston, TX USA

***Clostridioides difficile* Colonization Induces Colon Tumorigenesis In a Murine Model**
Jie Chen
Johns Hopkins University, Baltimore, MD

IV: Methodology & Epidemiology
Moderator: Karen Carroll, MD

1330 **Design and Conduct of a Large Phase 3 Efficacy Study of an Investigational *Clostridium Difficile* Vaccine (Clover)**
Nicholas Kitchen
Pfizer, United Kingdom

The Difficile Genomics Sequencing and Typing Service
Trefor Morris
Anaerobe Reference Unit, Public Health, Wales UK

***C. difficile* Infection: Epidemiology, Diversity, and Evolution In Asia**
Thomas Riley, Ph\D
Edith Cowan University/Murdoch University, Australia

***Clostridioides difficile* Ribotype Distributions Found in the Hospital Environment Versus Clinical Strains**
Christopher Lancaster
University of Houston College of Pharmacy, Houston, TX

Pandrug Resistant *Bacteroides Fragilis* Isolates on the Rise in the Netherlands
Kathleen Bolten
University of Groningen, The Netherlands

Environmental Contamination of Water with *C. difficile*
Su Chen Lim
Edith Cowan University, Australia

1530 Break, Exhibits

V: Bugs as Drugs: Engineered Microbial Communities & FMT
Moderator: Vince Young, MD

1545 **Fecal Microbiota Transplant for Severe *C. difficile* Infection and During Critical Illness**
Brendan J. Kelly, MD, MS
University of Pennsylvania, Philadelphia, PA USA

Current State of Knowledge: Fecal Microbiota Transplant for Fecal MDRO Colonization
Jennie H. Kwon, DO, MSCI
Washington University, St. Louis, MO USA

FMT in the Immunocompromised Host
Yinghong Wang, MD PhD
University of Texas MD Anderson Cancer Center, Houston, TX

The Next Generation of Fecal Microbiome Therapeutics
Ken F. Blount, PhD
Rebiotix, Roseville, MN USA

Investigational Microbiome Therapeutics to Reduce Recurrence of CDI: Results of the Phase 1b Trial of SER-262
Christopher Ford, PhD
Seres Therapeutics, Cambridge, MA

VI: The Oral Microbiome and Human Health
Moderator: Jeff S. McLean, PhD

1545 **Microbiome Modulation**
Wenyuan Shi, PhD
The Forsyth Institute, Boston, MA USA

Environmental Stress Perception Activates Structural Remodeling of *Streptococcus mutans* Biofilms
Justin L. Merritt, PhD
Oregon Health & Science University, Portland, OR USA

Oral Dysbiosis and Systemic Disease
Caroline A. Genco, PhD
Tufts University, Boston, MA USA

Keystone Oral Pathogen Immune Evasion
Richard P. Darveau, PhD
University of Washington, Seattle, WA USA

Molecular Basis of Cytotoxicity in Oropharyngeal *Prevotella*
Prioty Sarwar
University of Pennsylvania, Philadelphia, PA USA

1800 Wine and Cheese Networking Reception

SATURDAY, JULY 25, 2020

0700 Registration, Breakfast, Exhibits

VII: Functional Roles of Anaerobes in the Gastrointestinal Tract
Moderator: Casey M. Theriot, PhD

0800

Chemistry of Anaerobes: Plasmalogens
Jon Clardy, PhD
Harvard University, Boston, MA USA

Glycan Scavenging by Human Gut Bacteria
Nicole M. Koropatkin, PhD
University of Michigan, Ann Arbor, MI USA

Microbial Metabolites and the Microbiome
Robert Quinn, PhD
Michigan State University, Lansing, MI USA

***In silico* Prediction and *In Vitro* Assessment of Microbial Substrate Utilisation: A Focus on Newly Identified Health Promoting Gut Bacteria**
Cathy Lordan
University College Cork & Teagasc Food Research Centre, Ireland

0945 Break, Exhibits

VIII: *Clostridioides difficile*: Management Update
Moderator: Dale N. Gerding, MD

1000

Diagnosis of *C. difficile* Infection: NAAT vs. Other Algorithms and Ultrasensitive Toxin Testing
Karen Carroll, MD
The Johns Hopkins University, Baltimore, MD USA

Treatment and Prevention: IDSA/SHEA Guideline Update
Stuart Johnson, MD
Hines VA Medical Center, Hines, IL USA

***C. difficile* Colonization in Infants and the Resulting Immune Response**
Larry K. Kociolek, MD
Northwestern University, Chicago, IL USA

Clinical Analyses of a Defined Bacterial Consortium In Healthy Volunteers
Melissa Dsouza, PhD
Vedanta Biosciences Inc., *Cambridge, MA USA*

Extended-Pulsed Fidaxomicin Regimens to Improve Clinical Outcomes in Patients with Multiple *Clostridioides difficile* Infection Recurrences
Xing Tan, PharmD
University of Illinois, Chicago, Chicago, IL USA

Changes in *Clostridiodes difficile* Molecular Epidemiology Coincide with Changes in Antibiotic Usage at One Hospital between 2005 and 2015
Andrew Skinner, MD
Loyola University Medical Center, *Maywood, IL USA*

IX Breakout Lunch Session 1200–1345 Moderator: Caroline A, Genco, PhD
Meet the Editors: Tips on Publishing in Peer-Reviewed Journals

X: Basic Science of *C. difficile* Infection
Moderator: David Aronoff, MD

1415

Structures and Functions of the *C. difficile* Toxins
Borden Lacy, PhD
Vanderbilt University, Nashville, TN USA

Phenotypic Heterogeneity in *C. difficile*
Rita Tamayo, PhD
University of North Carolina, Chapel Hill, NC USA

Immune-Microbiota Interactions in Defense Against *C. difficile*
Michael C. Abt, PhD
University of Pennsylvania, Philadelphia, PA USA

Germination by *C. difficile* Spores
Joseph A. Sorg, PhD
Texas A&M University, College Station, TX USA

XI: Optimizing Anaerobic Cultivation
Moderator: Sujatha Srinivasan, PhD

1415

Revealing the Hidden Lifestyle of an Ultra-Small Bacteria TM7
Batbileg Bor, PhD
Forsyth Institute, Boston, MA USA

Human Microbiota Diversity through Culture and Culture Enriched Metagenomics
Michael G. Surette, PhD
McMaster University, Canada

Microfluidic Cultivation of Human Gut Bacteria
Lawrence David, PhD
Duke University, Durham, NC USA

Anaerobic Cultivation and Strain-Banking from the Human Gastrointestinal Tract
Trevor Lawley, PhD
Wellcome Sanger Institute, United Kingdom

1615 Break, Exhibits

	XII: Genetic Manipulation of Anaerobes: Strategies and Successes Moderator: Sarah A. Kuehne, PhD		XIII: *Clostridioides difficile* Hot Topics Moderator: Daniel Paredes-Sabja, PhD
1630	**In Pursuit of a *Fusobacterium* 'Pan-genetic' System** **Daniel Slade, PhD** *Virginia Tech, Blacksburg, VT USA* **Genetic Engineering of Oral Anaerobes** **Christopher Johnston, PhD** *Fred Hutchinson Cancer Research Center, Seattle, WA USA* **Elucidation of the Human Sterolbiome** **Jason M. Ridlon, PhD** *University of Illinois, Urbana, IL USA*	1630	**Demonstration that a Bivalent Toxoid Vaccine Is Able to Induce Antibodies in Humans that Can Neutralize the Diversity of *Clostridioides difficile* Toxins TCDA and TCDB** **Zhenghui Li PhD** *Pfizer Vaccine Research, Pearl River, NY USA* **Ridinilazole for *C. difficile* Infections: Producing Sustained Cures Through Preservation of the Microbiome** **Richard Vickers** *Summit Pharma, United Kingdom* **The diet-driven metabolic ecology of *Clostridium difficile* infection** **Andrew J Hryckowian, PhD** Stanford University, Stanford, CA USA **Activity of Microbial Derived Secondary Bile Acid Iso-Lithocholate Against *Clostridioides Difficile andOther Commensal Gut Microbes*** **Rajani Thanissery** North Carolina State University, Raleigh, NC USA **Quantitative Analysis of *Clostridioides difficile* Single-Cell Growth Dynamics Using Time-lapse Microscopy** **John W Ribis** Tufts University, Boston, MA USA **Murine Intrarectal Instillation of Purified Recombinant *C. Difficile* Toxins Enables Mechanistic Studies of Structure/Function Relationships** **Nicholas O. Markham, MD, PhD** Vanderbilt University, Nashville, TN USA **Strain Dependent Inhibition of *Clostridioides difficile* by Commensal *Clostridia* Encoding the Bile Acid Inducible (*Bai*) Operon** **Amber Reed** North Carolina State University, Raleigh, NC USA

1900 Reception, Banquet, Awards
Pavilion at the Olympic Sculpture Park overlooking the Puget Sound

SUNDAY, JULY 26, 2020

0700 Registration, Breakfast, Exhibits

XIV: Emerging Anaerobes and Disease Associations
Moderator: Audrey N. Schuetz

0800 **The Veillonellaceae**
Ellie J.C. Goldstein, MD
University of California, Los Angeles, CA USA
A Novel, Clinically Relevant Acid-Fast Anaerobe
Maria Navas, MD, D(ABMM)
Case Western Reserve University, Cleveland, OH USA
Identification of Emerging Anaerobes in the Clinical Microbiology Laboratory: MALDI-TOF MS and Sequence Analysis
Audrey N. Schuetz, MD, MPH, D(ABBM)
Mayo Clinic, Rochester, MN USA
Novel Anaerobes in the Reproductive Tract
Sujatha Srinivasan, PhD
Fred Hutchinson Cancer Research Center, Seattle, WA USA

1000 Break, Exhibits

XV: Anaerobes in Low Biomass Environments
Moderator: David N. Fredricks, MD

1015 **Intro to the Challenge: The Placental Microbiome?**
David N. Fredricks, MD
Fred Hutchinson Cancer Research Center, Seattle, WA USA

Fallopian Tube Microbiome Analysis: Potential Pitfalls
Bo Yu, MD, MS
University of Washington, Seattle, WA USA

***Point-Counterpoint Debate:* Anaerobes in the Lung: Cystic Fibrosis**

-**Anaerobes as Pathogens**
Michael G. Surette, PhD
McMaster University, Canada

-**Anaerobes as Commensals and Transients**
Pradeep Singh, MD
University of Washington, Seattle, WA USA

Cycled Tobramycin Primarily Affects Untargeted, Anaerobic Bacteria in the Cystic Fibrosis Sputum Microbiome
Maria Nelson
University of Washington, Seattle, WA USA

XVI: One Health: Anaerobes in Humans, Animals, and the Environment
Moderator: Francisco A. Uzal, DVM, PhD

1015 ***Clostridium perfringens* Type F Food Poisoning: Mechanisms and Reservoirs**
Bruce A. McClane, PhD
University of Pittsburgh, Pittsburgh, PA USA

The Connection Between *C. perfringens Epsilon* Toxin and Multiple Sclerosis
Jennifer Linden, PhD
Weill Cornell Medicine, New York, NY USA

Genomic and Evolutionary Insights into *C. difficile*: The Quintessential One Health Pathogen
Daniel R. Knight, PhD
Murdoch University, Australia

***Coriobacteriia* Are Diverse and This Is Reflected in Mammalian Gut Microbiotas**
Lesley Hoyles, PhD
Nottingham Trent University, United Kingdom

A One Health Perspective into the Prevalence of *Clostridioides difficile* (ST42) Across Clinical, Environmental, and Companion Animal Reservoirs Using Whole Genome Sequencing
Jason Sahl, PhD
Northern Arizona University, Flagstaff, AZ USA

1215–1315 Lunch, Exhibits
1300–1400 Poster Session 2

XVII: Clinical Infectious Disease: Anaerobe Infections
Moderator: Jeanne Marrazzo, MD

1400 **Increased Variety of Actinomyces Infections**
Eija Könönen, DDS, PhD
University of Turku, Finland

Diabetic Wound Infections
Elizabeth A. Grice, PhD
University of Pennsylvania, Philadelphia, PA USA

Early Functional Metagenomic Changes Associated with the Targeted Spectrum Antibiotic, ACX-362E vs Oral Vancomycin in Healthy Volunteers
Kevin W. Garey, PharmD
University of Houston, Houston, TX USA

Antimicrobial Resistance Mechanisms in Gram-Negative Anaerobic Bacteria
Alida Veloo, PhD
University of Groningen, The Netherlands

The Subtype Distribution of *Cutibacterium acnes* on the Skin Is Associated with the Risk of Prosthetic Failure
Roger E. Bumgarner, PhD
University of Washington, Seattle, WA USA

XVIII: Model Systems to Elucidate the Biology of Anaerobes
Moderator: Aimee Shen, PhD

1400 **Leveraging Human 3-D Models and Omics to Study Host-Vaginal Microbiota Interactions**
Melissa Herbst-Kralovetz, PhD
University of Arizona, Phoenix, AZ USA

Use of CRSIPRi to Study Gene Function in *C. difficile*
Craig D. Ellermeier, PhD
University of Iowa, Iowa City, IA USA

Bioreactors
Jennifer M. Auchtung, PhD
University of Nebraska, Lincoln, NE USA

***Clostridium butyricum* and *Clostridium neonatale* Pathogenicity and Necrotizing Enterocolitis**
Julio Aires, PhD
Université Paris Descartes, France

Developing a Standard of the Murine Gut Microbiome for Murine Models
Caroline Ganobis, PhD
University of Guelph, Canada

Different Probiotic Strains Alter the Return of Colonization Resistance Against *Clostridioides difficile* After Antibiotics
Matthew Foley, PhD
North Carolina State University, Raleigh, NC

1600 Congress Adjourns