



Anaerobe 2022

July 28-31, 2022

THURSDAY, JULY 28

0800-1600 REGISTRATION

0900-1700 ANAEROBIC IDENTIFICATION AND SUSCEPTIBILITY *See page 3 for details*

*Diane M. Citron
Mike Cox*

1800

0900-1700 EXAMINING ANAEROBES IN THE MICROBIOME: METAGENOMIC AND CULTURE APPROACHES

See page 3 for details

*Laura M. Cox, PhD
Anna Seekatz, PhD
Casey M. Theriot, PhD*

PRECONGRESS WELCOMING MIXER

Catch up with long-time colleagues and meet new friends at a no-host mixer. Details to be announced.

FRIDAY, JULY 29

0700-0820 REGISTRATION / BREAKFAST / EXHIBITS

0820-0830 WELCOME

David N. Fredricks, MD

0830-0930 SESSION I: KEYNOTE—GUT MICROBIAL METABOLISM AND CARDIOVASCULAR DISEASE

Moderator: David N. Fredricks, MD

*Stanley L. Hazen, MD, PhD
Cleveland Clinic, Cleveland, OH USA*

0930-0945 BREAK / EXHIBITS

0945-1145 SESSION II: OUT OF THE BOX: IMPACT OF GUT MICROBES ON NON-GI DISEASE

Moderator: Cynthia Sears, MD

The Microbiome and Cancer Immunotherapy

*Fyza Shaikh, MD, PhD
John Hopkins University, Baltimore, MD USA*

Spingholipids as Modulators of Microbiome Function

*Elizabeth L. Johnson, PhD
Cornell University, Ithaca, NY USA*

Specific Gut Bacteria Regulate Innate Immune Functions in the Brain of Aged Mice Related to Alzheimer's Disease

*Caroline Wasén, PhD
Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA*

Clostridium Perfringens Epsilon Toxin as a Possible Environmental Cause of Multiple Sclerosis in Humans

*Jennifer Linden, PhD
Weil Cornell Medicine, New York, NY USA*

1145-1330 LUNCH / EXHIBITS

1230-1330 POSTER SESSION I

1330-1515 CONCURRENT SESSIONS

1330-1515 SESSION III: FUSOBACTERIA

Moderator: Yiping W. Han, PhD

Fusobacterium necrophorum in Colorectal Cancer

*Yiping W. Han, PhD
Columbia University, New York, NY USA*

Experimental Approaches to Identify Virulence Determinants in *Fusobacterium nucleatum*

*Hung Ton-That, PhD
University of California, Los Angeles, CA USA*

Fusobacteria-Dominant Colorectal Cancer Biofilms are Associated with High Levels of the Polyamine N1, N12-Diacetylspermine

*Julia Drewes, PhD
Johns Hopkins University, Baltimore, MD USA*

1330-1515

Fusobacterium nucleatum Subspecies Differ in Biofilm Forming Ability *in Vitro*

*Maria Muchova, PhD
University of Birmingham, United Kingdom*

SESSION IV: METHODOLOGY & EPIDEMIOLOGY

Moderator: Karen Carroll, MD

Understanding the Roles of TCDE and TCDL in Toxin Secretion

*Shannon Kordus, PhD
Vanderbilt University, Nashville, TN USA*

Identification of a Bile Acid-Binding Transcription Regulator in *Clostridioides difficile* Using Chemical Proteomics

*Emily Forster
Tufts University, Boston, MA USA*

Natural Mutation Identified in CDTR of Clinical *Clostridioides difficile* Isolate Attenuates Virulence in Mice

*Qiwen Dong, PhD
University of Chicago, Chicago, IL USA*

FliW and CsrA Govern Flagellin (FliC) Synthesis and Play Pleiotropic Roles in Virulence and Physiology of *Clostridioides difficile* R20291

*Xingmin Sun, PhD
University of South Florida, Tampa, FL USA*

Comparative Genomic Analysis of *Clostridioides difficile* Strain Restriction Endonuclease Analysis Group Y across Four Decades

*Andrew Skinner, MD
Loyola University, Maywood, IL USA*

Anaerobic Microbiota Facilitate Pathogen Access to the Airway Epithelium in a Novel Co-Culture Model of Colonization

*Ryan Hunter PhD
University of Minnesota, Minneapolis, MN USA*

1515-1530 BREAK / EXHIBITS

1530-1730 CONCURRENT SESSIONS

1530-1730 SESSION V: BUGS AS DRUGS: ENGINEERED MICROBIAL COMMUNITIES & FECAL MICROBIOTA TRANSPLANT

Moderator: Vincent Young, MD

Current State of Knowledge: Fecal Microbiota Transplant for Fecal MDRO Colonization

*Jennie H. Kwon, DO, MSCI
Washington University, St. Louis, MO USA*

The 16th Biennial Congress of the Anaerobe Society of the Americas

Hyatt Regency, Seattle, WA USA

FRIDAY, JULY 29, CONTINUED

Consistent Microbiome and Bile Acid Restoration across Three Clinical Trials of RBX2660 for Recurrent *Clostridioides difficile* Infection: A Combined Analysis
Ken F. Blount, PhD
 Rebiotix, Roseville, MN USA

Impact of SER-109: An Investigational Microbiome Therapeutic, on Stool Fatty Acid and Bile Acid Metabolites in a Phase 3 Randomized Trial (ECOSPOR III) for Treatment of Recurrent *Clostridioides difficile* Infection (rCDI)
Christopher Ford, PhD
 Seres Therapeutics, Inc., Cambridge, MA USA

Efficacy and Safety of SER-109: An Investigational Microbiome Therapeutic for Treatment of Recurrent *Clostridioides difficile* Infection (rCDI): A Phase 3 Double-Blind, Randomized Trial (ECOSPOR III)
Thomas Louie, MD
 University of Calgary, Calgary, AB Canada

1530-1730 SESSION VI: THE ORAL MICROBIOME AND HUMAN HEALTH

Moderator: Jeff S. McLean, PhD

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

1730

1800

Anaerobic *pas de deux*: Introducing *Parvimonas micra* Genetics and Its Interspecies and Host Interactions
Justin L. Merritt, PhD
 Oregon Health & Science University, Portland, OR USA

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

A Genomic Portrait Reveals the Genetic Plasticity and Evolutionary Adaptation of *Porphyromonas gingivalis*
Mohamed Abdelbary, PhD
 Rheinisch-Westfälische Technische Hochschule University Hospital, Aachen, Germany

A Revised Taxonomy of the Genus *Treponema* Delineating Commensal and Pathogenic Organisms
Paul Lawson, PhD
 University of Oklahoma, Norman, OK USA

ASA BUSINESS MEETING

WINE AND CHEESE

NETWORKING RECEPTION

SATURDAY, JULY 30

0700-0800 REGISTRATION / BREAKFAST / EXHIBITS

0800-0945 SESSION VII: FUNCTIONAL ROLES OF ANAEROBES IN THE GASTROINTESTINAL TRACT
Moderator: Casey M. Theriot, PhD

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

Discovery of Novel Conjugated Bile Acids Made by the Gut Microbiota
Emily C. Gentry, PhD
 University of California, San Diego, CA USA

Characterization of Rare Lachnospiraceae
Anna Seekatz, PhD
 Clemson University, Clemson, SC USA

Diversity, Phylogeny, and Antimicrobial Nature of a Bile Acid Conjugation Within the Lachnospiraceae
Douglas Guziar
 Michigan State University, East Lansing, MI USA

0945-1000 BREAK / EXHIBITS

1000-1205 SESSION VIII: *CLOSTRIDIODES DIFFICILE*: MANAGEMENT UPDATE
Moderator: Dale N. Gerding, MD

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

Treatment and Prevention: IDSA / SHEA Guideline Update

1205-1345

1230-1330

Stuart Johnson, MD
 Hines VA Medical Center, Hines, IL USA

Effect of the COVID-19 Pandemic on Rates of *Clostridioides difficile* Infection in One VA Hospital and Correlation with Rates in the National VA Healthcare System

Lorinda Wright, PhD
 Edward Hines VA Hospital, Hines, IL USA

Ridinilazole for *Clostridium difficile* Infection: Efficacy and Microbiome Analyses in a Phase 3 Clinical Study
Esther Duperchy, PhD
 Summit Therapeutics, Abingdon, United Kingdom

Update on Ibezapolstat Clinical Trial Development
Kevin Garey, PharmD
 University of Houston, Houston, TX USA

Development of a Vaccine to Prevent *C. difficile* Infection
Jennifer Moisi, PhD
 Pfizer, Paris, France

LUNCH / EXHIBITS

SESSION IX: BREAKOUT LUNCH SESSION
Moderator: Caroline A. Genco, PhD

Meet the Editors: Tips on Publishing in Peer-Reviewed Journals

1345-1615 CONCURRENT SESSIONS

1345-1615

SESSION X: BASIC SCIENCE OF *CLOSTRIDIODES DIFFICILE* INFECTION
Moderator: David Aronoff, MD

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SATURDAY, JULY 30, CONTINUED

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

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

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

Sneak Attacks: Host Defense Peptides Enhance Antibiotic Efficacy Against *C. difficile* Without Triggering Spore Formation
Erin Purcell, PhD
Old Dominion University, Norfolk, VA USA

Colonization of Hamsters with Nontoxigenic *Clostridioides difficile* REA Type M3 (M3), Following Treatment with Fidaxomicin or Vancomycin.
Susan Sambol
Loyola University, Maywood, IL USA

Distinct Single-Cell Growth Dynamics of *Clostridioides difficile* Clade 5 Strains Revealed by Anaerobic Time-Lapse Microscopy
John Ribis, PhD
Tufts University, Boston, MA USA

1345-1615 SESSION XI: OPTIMIZING ANAEROBIC CULTIVATION

Moderator: Sujatha Srinivasan, PhD

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

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

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

Enhancing the Abundance of Understudied Fastidious Species Within Oral Microcosms
Madeline Krieger, PhD
Oregon Health and Science University, Portland, OR USA

Automated Analysis of Microbial Growth Reveals Phenotypic Diversity of *Clostridioides difficile*
Firas Midani, PhD
Baylor College of Medicine, Houston, TX USA

Pseudomonas aeruginosa Isolates from Chronic Rhinosinusitis Develop Increased Virulence Under Anaerobic Conditions
Do-Yeon Cho, MD
University of Alabama, Birmingham, AL USA

1615-1630 BREAK / EXHIBITS

1630-1730 CONCURRENT SESSIONS

1630-1730 SESSION XII: CLOSTRIDIOIDES DIFFICILE HOT TOPICS

Moderator: Daniel Paredes-Sabja, PhD

Taurine Conjugated Bile Acids Ameliorate Apoptosis Caused by *Clostridioides difficile* Toxins
Colleen Pike, PhD
North Carolina State University, Raleigh, NC USA

Olfactomedin-4 Exacerbates *Clostridioides difficile* Infection-Induced Mortality in Mice
Shinsmon Jose, PhD
University of Cincinnati, Cincinnati, OH USA

Sex-Mediated Differences in Murine *Clostridioides difficile* Infection Outcome
Ernesto Abel-Santos, PhD
University of Nevada, Las Vegas, NV USA

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

1630-1730 SESSION XIII: GENETIC MANIPULATION OF ANAEROBES: STRATEGIES AND SUCCESSES

Moderator: Sarah A. Kuehne, PhD

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

1900 RECEPTION / BANQUET / AWARDS PAVILION AT THE OLYMPIC SCULPTURE PARK See Registration Form for Banquet Tickets

SUNDAY, JULY 31

0700-0800 REGISTRATION / BREAKFAST / EXHIBITS

0800-1000 SESSION XIV: EMERGING ANAEROBES AND DISEASE ASSOCIATIONS

Moderator: Audrey N. Schuetz, MD

The Veillonellaceae
Ellie J.C. Goldstein, MD
University of California, Los Angeles, CA USA

Novel Anaerobes in the Reproductive Tract
Sujatha Srinivasan, PhD
Fred Hutchinson Cancer Research Center, Seattle, WA USA

Mechanisms of Virulence and Protection in *Paenibacillus sordellii* Infection
Sarah Bernard, MS
Vanderbilt University, Nashville, TN USA

The 16th Biennial Congress of the Anaerobe Society of the Americas

Hyatt Regency, Seattle, WA USA

SUNDAY, JULY 31, CONTINUED

Sneathia vaginalis: An Emerging Pathogen of Pregnancy and Its Pore-Forming Toxin

Kimberly Jefferson, Ph.D.
Virginia Commonwealth University,
Richmond, VA USA

Gardnerella Diversity and Ecology in Pregnancy and Preterm Birth

Hannah Berman
North Carolina State University, Raleigh, NC USA

Glycogen Break Down by Vaginal Bacteria

Elliot Lee, EdM
Fred Hutchinson Cancer Research Center,
Seattle, WA USA

1000-1015 BREAK / EXHIBITS

1015-1215 CONCURRENT SESSIONS

1015-1215 SESSION XV: ANAEROBES IN LOW BIOMASS ENVIRONMENTS

Moderator: David N. Fredricks, MD

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
Stanford University, Stanford, CA USA

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

—Anaerobes as Pathogens

Michael G. Surette, PhD
McMaster University, Hamilton, Ontario Canada

—Anaerobes as Commensals and Transients

Pradeep Singh, MD
University of Washington, Seattle, WA USA

—Panel Discussion

The Tumor Microbiome
Susan Bullman, PhD
Fred Hutchinson Cancer Research Center,
Seattle, WA USA

1015-1215 SESSION XVI: ONE HEALTH: ANAEROBES IN HUMANS, ANIMALS, AND THE ENVIRONMENT

Moderator: Francisco A. Uzal, DVM, PhD

Clostridium perfringens Type F Food Poisoning: Mechanisms and Reservoirs

Bruce A. McClane, PhD
University of Pittsburgh, Pittsburgh, PA USA

Genomic and Evolutionary Insights into *C. difficile*: The Quintessential One Health Pathogen

Daniel R. Knight, PhD
The University of Western Australia,
Perth Australia

Microbiome Therapy in Companion Animals: Strategies for the Creation of Anaerobic Microbial Complexes

Niokhor Dione, PhD
Animal Microbiome Analytics,
Oakland, CA USA

Evaluating the Role of Pore Formation in *Clostridium perfringens* Enterotoxin Permeability Effects

Archana Shrestha, PhD
University of Pittsburgh, Pittsburgh, PA USA

1215-1315 LUNCH / EXHIBITS

1315-1415 POSTER SESSION II

1415-1600 CONCURRENT SESSIONS

1415-1600 SESSION XVII: CLINICAL INFECTIOUS DISEASE: ANAEROBE INFECTIONS

Sponsor: European Society of Clinical Microbiology and Infectious Diseases

Moderator: Jeanne Marrazzo, MD

Increased Variety of Actinomyces Infections

Eija Könönen, DDS, PhD
University of Turku, Tarku Finland

Diabetic Wound Infections

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

Real Time Surveillance of Antimicrobial Resistance in Anaerobic Bacteria

Trefor Morris, MSc
Anaerobe Reference Unit, Public Health, Wales UK

Eucast Breakpoints and Methods for Susceptibility Testing of Anaerobic Bacteria

Trefor Morris, MSc
Anaerobe Reference Unit, Public Health, Wales UK

1415-1600 SESSION XVIII: MODEL SYSTEMS TO ELUCIDATE THE BIOLOGY OF ANAEROBES

Moderator: Aimee Shen, PhD

In Vitro Modeling of Anaerobic Communities

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

Determinants of Biofilm Formation in the Anaerobe Gut Symbiont *Bacteroides thetaiotaomicron*

Ghigo Jean-Marc, PhD
Institut Pasteur, Université de Paris, Paris France

Synbiotic Delivery of Human Microbiota and Paired Fiber Improves Post-Antibiotic Resilience in Mice in Sex-Dependent Ways

Steve Lindemann, PhD
Purdue University, West Lafayette, IN USA

1600 CONGRESS ADJOURNS

