

PURINA INSTITUTE MICROBIOME FORUM VIRTUAL EVENT:

PUTTING MICROBIOME SCIENCE INTO CLINICAL PRACTICE

 **PURINA** Institute
Advancing Science for Pet Health


MICROBIOME FORUM

Wednesday, October 20th 2021

Time	Stream 1	Stream 2
9 am – 9:05 am (CDT) 3 pm – 3:05 pm (BST)	Introductions – Welcome & Opening of the Microbiome Forum Dr. Natalia Wagemans, Global Head - Purina Institute	
9:05 am – 9:35 am (CDT) 3:05 pm – 3:35 pm (BST)	Keynote address – Part of the whole: the role of the gut microbiome in host health Dr. Jan Suchodolski	
9:35 am – 10:05 am (CDT) 3:35 pm – 4:05 pm (BST)	Comparative gastroenterology: the intersection of the gut microbiome, immunity, and health in humans and animals Dr. Holly Lutz <i>Approximately 70% of the cells of the immune system are in the gut, indicating the importance of the gut and microbiome in host immunity and inflammation. This presentation explores the mechanisms of host-microbe interactions and variation in their relationships throughout the animal kingdom.</i>	Assessing and treating the microbiome – a case-based and clinical approach Dr. Linda Toresson <i>This presentation provides a clinically-focused overview of gut microbiome composition and how it affects and is affected by host health and disease.</i>
10:05 am – 10:35 am (CDT) 4:05 pm – 4:35 pm (BST)	Probiotics and synbiotics: separating fact from fiction Dr. Gail Czarnecki-Maulden <i>Learn how probiotic strains are identified and developed, and discuss common myths and misconceptions about the characteristics and actions of probiotics and synbiotics.</i>	

Bifidobacterium

Wednesday, October 20th 2021

Time	Stream 1	Stream 2
10:35 am – 11:05 am (CDT) 4:35 pm – 5:05 pm (BST)	Diagnostic evaluation of the gut microbiome Dr. Joerg Steiner, Dr. Jan Suchodolski <i>This presentation provides an in-depth review of available microbiome assays and how they may be used to customize case management.</i>	Beyond the bacteria: evidence-based selection of probiotics and synbiotics inveterinary practice Dr. Mike Lappin <i>Explore the current clinical evidence for probiotics and synbiotics for dogs and cats, including their nongastrointestinal effects, as well as guidance for selection of the appropriate pro/synbiotic for clinical cases.</i>
11:05 am – 11:35 am (CDT) 5:05 pm – 5:35 pm (BST)	Diagnostic evaluation of the gut microbiome (continued) Dr. Joerg Steiner, Dr. Jan Suchodolski	Appropriate antimicrobial use in acute and chronic diarrhea Dr. Stephan Unterer <i>Explore the current best practices for case management of acute and chronic enteropathies</i>
11:35 am – 12:20 pm (CDT) 5:35 pm – 6:20 pm (BST)	Joint-session panel and Q&A with all presenters	
12:20 pm – 12:30 pm (CDT) 6:20 pm – 6:30 pm (BST)	Day 1 closing remarks Dr. Natalia Wagemans, Dr. Jan Suchodolski	



Thursday, October 21st 2021

Time	Stream 1	Stream 2
9 am – 9:05 am (CDT) 3 pm – 3:05 pm (BST)	Welcome & introduction of Day 2 Dr. Natalia Wagemans, Dr. Jan Suchodolski	
9:05 am – 9:35 am (CDT) 3:05 pm – 3:35 pm (BST)	Probiotics, the gut microbiome and immunity Dr. Mike Lappin <i>Probiotics and synbiotics exert their effects through numerous mechanisms. Explore the current scientific evidence behind their role in modulating the host immune response.</i>	Improving and maintaining gut barrier function Dr. Stan Marks <i>Enteropathies can affect, and be affected by, gut barrier function. Discover the role of the gut barrier in preserving GI and host health; the long-term implications of compromised gut barrier function; and methods to try to restore and preserve barrier function in clinical cases.</i>
9:35 am – 10:05 am (CDT) 3:35 pm – 4:05 pm (BST)	The oral microbiome: current knowledge and clinical implications Dr. Julie Spears <i>Explore current knowledge of the oral microbiome, including its development and the impact of dental disease and dental cleaning.</i>	
10:05 am – 10:35 am (CDT) 4:05 pm – 4:35 pm (BST)	Who's the boss? The gut-brain axis in health and disease Dr. Karin Allenspach <i>This presentation provides in-depth information on the growing evidence supporting the pivotal role of the gut-brain axis in cognition, anxiety and epilepsy in humans and pets.</i>	Filtering the noise: interpreting gut microbiome reports Dr. Jan Suchodolski <i>Explore the currently available microbiome tests available to veterinarians and pet owners, and learn how to interpret and apply the results to case management.</i>

Mixed Bacterial Species

Thursday, October 21st 2021

Time	Stream 1	Stream 2
10:35 am – 11:05 am (CDT) 4:35 pm – 5:05 pm (BST)	<p>Nutrition, gut health and the microbiome: the impact of fiber and macronutrients Dr. Valerie Parker</p> <p><i>Diet offers a daily opportunity to affect the microbiome. Learn about the mechanisms and impact of macronutrient changes and fiber on gut health and the microbiome, with a focus on clinical relevance.</i></p>	<p>Nutrition, gut health and the microbiome in clinical case management Dr. Cecilia Villaverde</p> <p><i>This presentation provides an overview of how diet and nutrition impacts the microbiome in health and disease, and how nutrition can play a role in microbiome-centric case management.</i></p>
11:05 am – 11:35 am (CDT) 5:05 pm – 5:35 pm (BST)	<p>The current state of fecal microbial transplantation Dr. Linda Toresson, Dr. Jan Suchodolski</p> <p><i>Experts discuss the current evidence for FMT, its benefits and risks, how it should be performed, and when FMT is appropriate in clinical cases.</i></p>	
11:35 am – 12:20 pm (CDT) 5:35 pm – 6:20 pm (BST)	Joint-session panel and Q&A with all presenters	
12:20 pm – 12:30 pm (CDT) 6:20 pm – 6:30 pm (BST)	<p>Closing of the Microbiome Forum virtual event Dr. Natalia Wagemans, Dr. Jan Suchodolski</p>	





CHAIR

Jan S. Suchodolski, MedVet, DrVetMed, PhD, AGAF, DACVM

Jan S. Suchodolski graduated with a veterinary degree from the University of Veterinary Medicine in Vienna, Austria. After working for several years in a small animal specialty clinic he returned to academia and received his PhD in Veterinary Microbiology from Texas A&M University for his work on molecular markers for the assessment of the intestinal microbiota. He is board-certified in immunology by the American College of Veterinary Microbiologists (ACVM). He currently serves as Professor and Associate Director of the GI Lab. He has published more than 340 peer-review manuscripts in the field of veterinary gastroenterology and microbiome.



Karin Allenspach, Dr.med.vet. DECVIM-CA, PhD, AGAF

Karin Allenspach received her veterinary degree from the University of Zurich. She did an internship in small animal emergency medicine and critical care at Tufts University and a residency in small animal internal medicine at the University of Pennsylvania, and is a diplomate of the European College of Veterinary Internal Medicine. She was awarded a PhD in veterinary immunology from the University of Bern, Switzerland for her work on canine chronic enteropathies. She is currently employed as Professor in Internal Medicine and Translational Health at Iowa State University, Ames, USA and is a PI of the SMART Translational medicine Lab at ISU, which focuses on the development and culture of adult stem cell-derived organoids from various species. Her latest efforts have resulted in the founding of a start-up company (3D Health Solutions, Inc.) with the goal of commercializing assays for drug screening based on organoid methods.



Gail Czarnecki-Maulden, MS, PhD

Dr. Gail Czarnecki-Maulden is a Senior Principal Nutritionist at Nestlé Purina and an Adjunct Professor of Veterinary Clinical Medicine at the University of Illinois. She received her BS from Cornell University and her MS and PhD in Animal Nutrition from the University of Illinois. Before joining Nestlé Purina, Gail was an Associate Professor of companion animal nutrition at the University of Illinois. Gail is a past member of the National Academy of Science Board on Agriculture and Natural Resources and the AAFCO dog and cat nutrient profiles subcommittee (which sets nutrient standards for dog and cat foods in the US). She has served as a member of the Scientific Advisory Board for the International Probiotics Association, the University of Illinois Division of Nutritional Sciences External Advisory Board, and the NAS/NRC Committee on Evaluating the Safety of Dietary Supplements for Horses, Dogs and Cats. Gail has published over 60 articles and abstracts in the area of pet nutrition. Her research focuses on probiotics, prebiotics, and the effect of nutrition on gastrointestinal health and microbiome. Gail's love of science and animals extends to her personal life where she is actively involved in science-based positive reinforcement dog training. She is a certified dog trainer (KPA CTP, Certified Fear Free Professional, CTDI, licensed Family Paws Parent Educator), the Director of Training for the Greater St Louis Training Club and is an advisory member of the Havanese Rescue Board of Directors.



Mike Lappin, DVM, PhD, DACVIM

Dr. Mike Lappin graduated from Oklahoma State University and then completed an internship, internal medicine residency, and PhD program in Parasitology at the University of Georgia. Dr. Lappin is the Kenneth W. Smith Professor in Small Animal Clinical Veterinary Medicine at Colorado State University and is the director of the “Center for Companion Animal Studies”. The Center is housed in the Translational Medicine Institute at CSU. Dr. Lappin is the chair of the WSAVA One Health Committee. His principal areas of interest are prevention of infectious diseases, the upper respiratory disease complex, infectious causes of fever, infectious causes of diarrhea, zoonoses, and nutritional management of internal medicine problems, including the use of probiotics.



Holly Lutz, PhD

I am a project scientist in the Center for Microbiome Innovation at UCSD School of Medicine, and a scientific affiliate with the Field Museum of Natural History in Chicago, IL. I study the evolution of host-symbiont systems and immunology. My research integrates natural history collections with metagenomic, metabolomic, and histological methods to investigate the evolutionary processes shaping these associations in animal systems. I also apply these methods to clinical and experimental investigations into the role of bacterial symbionts in humans and disease phenotypes. Continuing interests and collaborations involve the evolution and ecology of malarial parasites and related haemosporidia and biotic inventories of tropical ecosystems. I received my Ph.D. in Evolutionary Biology ('16) from Cornell University, where I was affiliated with the Department of Ecology and Evolution, the Lab of Ornithology, and the Department of Population Medicine and Diagnostic Sciences in the College of Veterinary Medicine.



Stan Marks, BVSc, PhD, DACVIM (Internal Medicine, Oncology), DACVN

Dr. Stan Marks graduated from the University of Pretoria, South Africa, and completed an internship in small animal medicine and surgery at the University of Missouri, Columbia. He completed a small animal internal medicine residency program at the University of Florida and an oncology residency program at the University of California, Davis. Dr. Marks received his PhD degree in Nutrition from the University of California, Davis, where he is currently a Professor in the Department of Medicine and Epidemiology. Dr. Marks is a Diplomate of the American College of Veterinary Internal Medicine (ACVIM) in the subspecialties of internal medicine and oncology, and a Diplomate of the American College of Veterinary Nutrition (ACVN). He is the past President of the Comparative Gastroenterology Society and the Director of the Companion Animal Gastrointestinal Laboratory at UC Davis that focuses on furthering our understanding and knowledge of canine and feline infectious enteropathies. In addition, Dr. Marks has research interests in deglutology and the diagnosis and management of esophageal disorders in dogs. Dr. Marks has received numerous faculty teaching awards over the years and was honored to be selected the Speaker of the Year at the 2003 NAVC Conference and the 2012 Canadian Veterinary Medical Association Convention. He has published over 130 manuscripts in the areas of canine and feline gastroenterology, and has contributed chapters to a number of textbooks.



Valerie Parker, DVM, DACVIM, DACVN

Dr. Parker is currently a Professor–Clinical at The Ohio State University. She received her DVM from Tufts University, followed by a small animal internship at the Animal Medical Center in New York City. She then completed a small animal internal medicine residency at Iowa State University and a nutrition residency at Tufts University. She is a diplomate of both the American College of Veterinary Internal Medicine and the American College of Veterinary Nutrition. Dr. Parker’s primary areas of interest include kidney disease, gastrointestinal disease, and vitamin D metabolism, as well as nutritional management of a variety of canine and feline diseases.



Julie K. Spears, PhD

Dr. Spears earned a Master of Science and Doctor of Philosophy in Companion Animal Nutrition from the University of Illinois at Urbana-Champaign. She joined Nestlé Purina in 2005 as a Research Scientist. Julie currently is a Senior Principal Scientist in the Nestlé Purina PetCare Research Unit and serves as an affiliate faculty member at the University of Alaska Fairbanks College of Natural Science and Mathematics and Department of Veterinary Medicine. She has been researching the impact nutritional intervention on the oral and gastrointestinal microbiome of dogs and cats for more than twenty years. Julie has numerous publications in the field of companion animal nutrition and digestive health. Her current research interests include oral health, gastrointestinal and immune health, renal health, and early development.



Jörg M. Steiner, med.vet., Dr.med.vet., PhD, DACVIM-SAIM, DECVIM-CA, AGAF

Jörg Steiner received his veterinary degree from the Ludwig-Maximilians University in Munich, Germany in 1992. He completed an internship in small animal medicine and surgery at the University of Pennsylvania in 1993 and a residency in small animal internal medicine at Purdue University in 1996. He received his Dr.med.vet. degree from the Ludwig-Maximilians University in Munich, Germany in 1995 in recognition of research on feline trypsin and feline trypsin-like immunoreactivity. In 1996 he achieved board certification with both the American College of Veterinary Internal Medicine (ACVIM) and the European College of Veterinary Internal Medicine. In 2000 Dr. Steiner received a PhD from Texas A&M University for his work on canine digestive lipases and their use for the diagnosis of gastrointestinal disorders in the dog. In 2012 he was recognized as a Fellow by the American Gastroenterology Association. He currently serves as Professor with the Department of Small Animal Medicine and Surgery and the Department of Veterinary Pathobiology at Texas A&M University. In 2016 Dr. Steiner was named the Dr. Mark Morris Chair in Small Animal Gastroenterology and Nutrition. He also serves as the Director of the Gastrointestinal Laboratory at Texas A&M University and is involved in a wide variety of research in small animal and comparative gastroenterology. He has authored or co-authored more than 350 peer-reviewed articles, 100 book chapters, and 470 research abstracts. He has been invited to present his work at many national and international conferences and provides continuing education lectures for veterinarians across the globe. He has also served several professional organizations in various roles and currently serves as the president of Small Animal Internal Medicine of ACVIM. In 2018 Dr. Steiner received the AVMA Career Achievement Award in Canine Research. He was selected as a University Distinguished Professor at Texas A&M University in 2019.



Linda Toresson, DVM, PhD

Linda Toresson graduated from the Swedish University of Agricultural Science in 1995. Since 1996, she has worked at Evidensia Specialist Animal Hospital, Helsingborg, Sweden, focusing on small animal gastroenterology. In 2001, she became a Swedish Specialist in diseases of dogs and cats and in 2007 a Swedish Specialist in Small Animal Internal Medicine. Linda served as the Medical Director at Evidensia Specialist Animal Hospital, Helsingborg during 2007-2013, a position she left to become an external PhD-student in gastroenterology at Helsinki University. In 2018, she presented her thesis on oral cobalamin supplementation in dogs with chronic enteropathies and was awarded a PhD with distinction. Linda's case load consists exclusively of dogs and cats with gastrointestinal diseases. She is combining clinical practice at the Evidensia Specialist Animal Hospital in Helsingborg with GI research, and is still affiliated with Helsinki University as an external researcher. For more than a decade, she has collaborated in various projects with professors Joerg Steiner and Jan Suchodolski at the Gastrointestinal Laboratory, Texas A&M University in College Station, Texas. Her main research interest is the intestinal microbiome, including modulation of the microbiome beyond antibiotics. She currently serves as the president of the European Society of Comparative gastroenterology.



Stefan Unterer, Priv.-Doz., Dr. med. vet., Dr. habil., DipECVIM-CA

Stefan Unterer is the head of the gastroenterology service at the Clinic of Small Animal Internal Medicine of the Ludwig-Maximilians-University of Munich/Germany. He completed his internship and residency in small animal internal medicine at the University of Zürich/Switzerland and University of Georgia/USA. Stefan Unterer became board-certified by the European College of Veterinary Internal Medicine in 2003. After one year in private practice, he returned to academia and became a faculty member at the University of Munich/Germany. He finished his habilitation thesis in 2016. Stefan Unterer will start his new position as Professor/Chair of Small Animal Internal Medicine and Director of the Small Animal Internal Medicine Clinic at the Vetsuisse Faculty Zurich/Switzerland in February 1st 2022. His clinical research projects include the intestinal microbiome, acute hemorrhagic diarrhea in dogs, intestinal barrier function and longterm consequences of acute enteritis.



Cecilia Villaverde, BVSc, PhD, Diplomate ACVN, Diplomate ECVN

Cecilia obtained her veterinary degree in 2000 and her PhD in animal nutrition in 2005 by the Universitat Autònoma de Barcelona (UAB), Spain. She worked as a post doctoral researcher in feline nutrition at the University of California Davis, where she also completed a residency in small animal clinical nutrition at the Veterinary Medical Teaching Hospital. She is board certified in veterinary nutrition by the American College of Veterinary Nutrition (ACVN®) and by the European College of Veterinary and Comparative Nutrition (ECVCN) since 2010 and is currently the past president of ECVN. After working as the chief of service of the veterinary teaching hospital nutrition service in Barcelona (UAB) for 6 years, she is now a consultant in clinical nutrition for Expert Pet Nutrition (www.expertpetnutrition.com) and Veterinary Information Network (VIN). She is the co-chair of the WSAVA Global Nutrition Committee and has written several articles and book chapters on the topic of companion animal nutrition.