



GUT MICROBIOLOGY

**20 years
& counting ...**

SCIENTIFIC PROGRAM

Monday 20 June

18:00	Registration and pre-conference mixer
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Tuesday 21 June

09:00 - 09:10	Welcome and opening remarks
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SESSION 1: RECENT ADVANCES IN GUT MICROBIAL DIVERSITY AND FUNCTION

Chaired by Alan WALKER & Evelyne FORANO

INVITED LECTURE

09:10 - 09:50	L1	Functional analysis of the gut microbiota using single cell isotope probing David BERRY - Austria
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ORAL COMMUNICATIONS

09:50 - 10:10	O1	The hidden allies: microbes associated with the gut of a specialist beetle PoI ALONSO-PERNAS - Germany
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10:10 - 10:30	O2	Intestinal microbiome landscape of Western adults - Phylogenetic core and its functionality Sudarshan A. SHETTY - Finland
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10:30 - 11:10	Coffee break
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ORAL COMMUNICATIONS

11:10 - 11:30	O3	The mouse intestinal bacterial collection (miBC): host-specific insight into cultivable diversity and genomic novelty of the mouse gut microbiome Thomas CLAVEL - Germany
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11:30 - 11:50	O4	Respiratory support and antibiotic treatment in preterm infants delays colonisation by anaerobic symbionts Romy D. ZWITTINK - The Netherlands
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11:10 - 12:10	O5	Metatranscriptomics for novel glycoside hydrolase enzyme discovery from the rumen of muskoxen Robert J. FORSTER - Canada
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BREAKING NEWS - SESSION 1

12:10 - 12:15	BN1	Capturing the diversity of fungal population in human colonic microbiota through culture-dependent and independent approaches Caterina GOZZOLI - Italy
12:15 - 12:20	BN2	Effect of <i>Bifidobacterium longum</i> BB536 on gut environmental condition of mice with human gut-derived microbiota Hirosuke SUGAHARA - Japan
12:20 - 12:25	BN3	Rumen derived antimicrobials as a solution to evolving and persistent clinical infections Linda B. OYAMA - UK
12:25 - 12:30	BN4	Zebrafish gut as a house for human intestinal bacteria Nerea ARIAS-JAYO - Spain
12:30 - 14:00		Lunch
14:00 - 15:00		Poster session
15:30 - 16:00		Coffee break
16:00 - 16:15		FEMS Presentation - Grzegorz Wegrzyn - Poland

SESSION 2: MICROBIAL ACTIVITY AND METABOLISM

Chaired by Petra LOUIS & Pascale MOSONI

INVITED LECTURE

16:20 - 17:00	L2	Microbe-microbe interactions in the rumen, from the simple to the complex Bryan A. WHITE - USA
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ORAL COMMUNICATIONS

17:00 - 17:20	O6	Polysaccharide utilization loci and nutritional specialization in a dominant group of butyrate-producing human colonic Firmicutes Paul O. SHERIDAN - UK
17:20 - 17:40	O7	Metagenomics distribution of cellulosome-related elements in the bovine rumen Sarah MORAIS - Israel
17:40 - 18:00	O8	The role of lactate-utilizing bacteria community in infant gastrointestinal discomfort V. T. PHAM - Switzerland
Evening		« Fête de la Musique » in Clermont-Ferrand

Wednesday 22 June

SESSION 2: MICROBIAL ACTIVITY AND METABOLISM

(continued)

ORAL COMMUNICATIONS		
09:00 - 09:20	O9	Colonic transit time relates to bacterial metabolism and mucosal turnover in the human gut Henrik M. ROAGER - Denmark
09:20 - 09:40	O10	The dog that did not bark: A metabolite story Amy S. VAN WEY - New Zealand
BREAKING NEWS - SESSION 2		
09:40 - 09:45	BN5	Metabolomics to decipher gut microbiota derived metabolites Alesia WALKER - Germany
09:45 - 09:50	BN6	A deeper exploration of fiber degradation by the human intestinal microbiota Orlane PATRASCU - France
09:50 - 09:55	BN7	Metagenomic datamining reveals microbial populations responsible for trimethylamine formation in the human gut Eleanor JAMESON - UK
09:55 - 10:00	BN8	Butyrogenic fermentation of lysine and fructoselysine by <i>Intestinimonas butyriciproducens</i> in the human colon Nam T.P. BUI - The Netherlands
10:00 - 10:40		Coffee break

SESSION 3: CROSSTALK BETWEEN THE GUT MICROBIOTA AND THE HOST

Chaired by Silvia GRATZ & Annick BERNALIER-DONADILLE

INVITED LECTURE		
10:40 - 11:20	L3	Inter-kingdom communication within the gut microbiome Primrose FREESTONE – UK
ORAL COMMUNICATIONS		
11:20 - 11:40	O11	Behavioural testing alters the caecal microbiota in Sprague-Dawley and Wistar Kyoto rats Wayne YOUNG - New Zealand
11:40 - 12:00	O12	The N-acetylglucosamine sensor NagC contributes to intestinal colonization by enterohemorrhagic <i>E. coli</i> through direct regulation of LEE gene expression Grégory JUBELIN - France
12:00 - 12:20	O13	The human microbiota in health and disease: the role of quorum sensing peptides Evelien WYNENDAELE - Belgium

12:20 - 14:00		Lunch
14:00 - 15:30		Poster Session
15:30 - 16:00		Coffee break
ORAL COMMUNICATIONS		
16:00 - 16:20	O14	A differential microbial colonization pattern due to different milk feeding regimes in early life does not trigger differences in gene expression levels at the rumen epithelium David YANEZ-RUIZ - Spain
16:20 - 16:40	O15	Role of rumen microbiome in the development of pre-ruminant rumen Le Luo GUAN - Canada
BREAKING NEWS - SESSION 3		
16:40 - 16:45	BN9	Sulphides and pain: role of sulphate-reducing bacteria in visceral hypersensitivity in Irritable bowel syndrome patients. Laureen CROUZET - France
16:45 - 16:50	BN10	Long-term impacts of early life antibiotic exposure on metabolic development Benjamin P. WILLING - Canada
16:50 - 16:55	BN11	Gut-derived Coriobacteriaceae increase white adipose tissue deposition in mice Thomas CLAVEL - GERMANY
18.30 - 20.00		Council Reception at Clermont-Fd City Hall
20:30		Gala dinner at Casino Royat

Thursday 23 June

SESSION 4: INTERPLAY BETWEEN GUT MICROBIOME AND THE ENVIRONMENT

Chaired by John WALLACE & Milka POPOVA

INVITED LECTURE		
09:00 - 09:40	L4	The ruminant gut microbiome and its relationship with the environment Stuart DENMAN - Australia
ORAL COMMUNICATIONS		
09:40 - 10:00	O16	Meta-transcriptome analysis of the rumen microbiome in response to nitrate addition reveals the role of oxidative stress in the reduction in methane emissions from cattle Christopher J. CREEVEY – United Kingdom
10:00 - 10:20	O17	Impacts of the methanogen inhibitor 3-NOP on the rumen microbial community in cattle fed a tropical roughage hay G. MARTINEZ-FERNANDEZ - Australia
10:20 - 11:00		Coffee break
ORAL COMMUNICATIONS		
11:00 - 11:20	O18	Methane production in dairy cows correlates with methanogenic and bacterial community structure in rumen R. DANIELSSON - Sweden
11:20 - 11:40	O19	First microbial gene catalog and antibiotic resistome of rabbit gut microbiota established by metagenomic sequencing Olivier ZEMB - France
BREAKING NEWS - SESSION 4		
11:40 - 11:45	BN12	Analysis of functionally active methanogens in rumen liquid digesta of cattle undergoing dietary restriction and subsequent compensatory growth Emily M. McGOVERN - Ireland
11:45 - 11:50	BN13	Investigation of the rumen metavirome reveals variation between naturally high and low methane emitting animals Thomas HITCH - UK
11:50 - 11:55	BN14	Benzo[A]Pyrene impacts the volatile metabolome and transcriptome of human gut microbiota Clémence DEFOIS - France
11:55 - 12:25		“Twenty years & counting ...” – Conference by the pioneers of the INRA – Rowett symposium Jean-Pierre JOUANY, John WALLACE, Gérard FONTY, Harry FLINT – France, UK
12:25 - 14:00		Lunch

SESSION 5: IMPACT OF DIET ON GUT MICROBIOTA

Chaired by Karen SCOTT & Diego MORGAVI

INVITED LECTURE

14:00 - 14:40 **L5** Microbial strategies for exploiting polysaccharide energy sources in the human colon
Harry J. FLINT - UK

ORAL COMMUNICATIONS

14:40 - 15:00 **O20** Modulation of the gut microbiota by distinct unavailable carbohydrates is dependent on the pre-existing microbial profile
Christian HOFFMANN - Brazil

15:00 - 15:20 **O21** Quantity and quality of protein intake alter gut microbiota activity and impact large intestine mucosa in overweight humans
Martin BEAUMONT - France

15:20 - 15:50 **Coffee break**

ORAL COMMUNICATIONS

15:50 - 16:10 **O22** Diet-induced changes of redox potential underlie compositional shifts in the rumen microbiome
Itzhak MIZRAHI – Israel

16:10 - 16:30 **O23** Infant gut microbiota development is driven by transition to family foods independent of maternal obesity
Martin FREDERIK LAURSEN - Denmark

BREAKING NEWS - SESSION 5

16:30 - 16:35 **BN15** Impact of diet on development of the gastrointestinal tract and its associated microbiota in dairy calves
Kimberly A. DILL-MCFARLAND - USA

16:35 - 16:40 **BN16** Food structure impacts digestion and gut microbiota composition
Daphné JAOUÏ - France

16:40 - 16:45 **BN17** Effect of dietary supplementation, with linseed oil, in early life on the ruminal microbial community structure of lambs
Tamsin LYONS - Ireland

16:45 - 16:50 **BN18** Adaptation of the pig's fecal microbiota in response to different diets shows short-term changes in the structural and functional composition
Jana SEIFERT – Germany

16:50 - 17:00 **Meeting wrap up – introduce 2018 Rowett-INRA meeting**

17:30 - 19:30 **Free tourist tour in Clermont-Ferrand**