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## The Gut Microbiota For Health Newsletter #38

### August 21, 2014

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### Edito

Dear Friends,

Over the past few weeks, the GMFH publication team has been speaking with researchers whose work has particularly interesting clinical implications, both now and in the future. We present an interview with Dr. Karine Clement, a physician and researcher who has built a career around investigating the complexities of obesity. Then, Prof. Patrick Schloss talks to us about a study from his lab that found gut microbiota data significantly enriched current methods of testing patients for colorectal cancer.

We have three journal selections for you this week. One is a systematic review that found probiotics had a positive effect on blood pressure. Another selection shares a new method of identifying interactions between gut microbial species, and the third is an editorial describing how big data analysis tools could help us understand and apply our knowledge about the gut microbiota.

One last thing: it's still time to take the ESNM questionnaire to test your knowledge on gut microbiota!

We look forward to sharing many more interviews with you in the weeks ahead!

The GMFH publishing team

## Gut microbiota e-learning 2014: take the questionnaire!

The Gut Microbiota and Health Section of the European Society of Neurogastroenterology and Motility (ESNM) is pleased to provide a first set of e-learning slides on gut microbiota dedicated to gastroenterologists. It contains a selection of scientific information about the human gut microbiota. This e-learning has been developed in cooperation with the World Gastroenterology Organisation (WGO), and it is put online for the World Digestive Health Day because WGO is emphasizing the role of gut microbiota in digestive health for the 2014 year.



This course is split into 4 parts : Introduction - Diarrhea - Colonic diseases - Questions from patients.

You can now take the questionnaire at the bottom of the article to test your knowledge.

Comments are welcome.

[Read more](#)

Written by PY. ARNOUX



## Interview with Dr. Karine Clément on human genes and microbial genes in human obesity

Karine Clément is a physician and a professor at Paris 6 Pierre et Marie Curie University in Paris. She is also the director of ICAN (Institute of Cardiometabolism and Nutrition) which focuses on care, research, and training in cardiometabolic diseases with the aim of developing methods for personalized medicine.



She recently gave a talk at an event hosted by “Le Fonds français pour l’alimentation et la santé”, a French foundation dedicated to food and nutrition. Prof. Clément’s presentation, on July 1st, was called “Le microbiote et la santé humaine : focus sur les maladies métaboliques” (Microbiota and human health: focus on metabolic diseases).

She spoke with Gut Microbiota for Health about her July 1st presentation, as well as her ongoing research and practice in the area of metabolic diseases.

[Read more](#)

Written by K. CAMPBELL



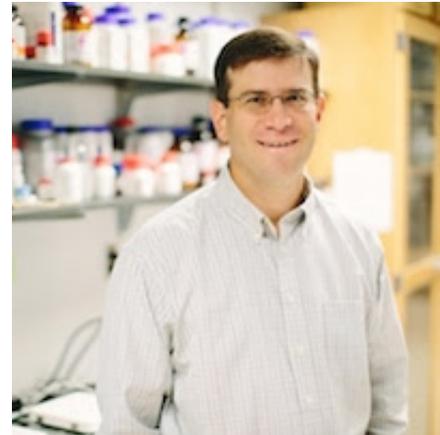
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## Interview with Prof. Patrick Schloss on detecting colon cancer

In a study published in *Cancer Prevention Research*, Dr. Patrick Schloss (University of Michigan) and his team found that the gut microbiome could enrich current methods of testing for colon cancer.

The group characterized the gut microbiome from stool samples of patients in three stages of colorectal cancer development: healthy, adenoma, and carcinoma. They found distinct features of the bacterial populations in each group.

By taking the gut microbiome data of a patient, along with body mass index, age, and race (which are known clinical risk factors for colon cancer), the team significantly improved their ability to detect the presence of precancerous and cancerous lesions as compared to commonly used methods of detection.



Dr. Patrick Schloss agreed to speak with Gut Microbiota for Health about this work.

[Read more](#)

Written by K. CAMPBELL



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## Systematic review on probiotics and blood pressure

Seen on *Hypertension*  
Khalesi S, *et al.* - 2014

What effect does probiotic consumption have on blood pressure?

This was the question that a systematic review in *Hypertension* set out to answer. Using a meta-analysis of randomized, controlled trials, authors found that consumption of probiotics changed systolic blood pressure by  $-3.56$  mm Hg and diastolic blood pressure by  $-2.38$  mm Hg. Although the species of live bacteria varied from trial to trial, a greater reduction in blood pressure was found with multiple species than with a single species. Interventions that lasted less than 8 weeks or that gave subjects fewer than  $10^{11}$  colony-forming units did not result in a significant reduction of blood pressure.

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Written by K. CAMPBELL



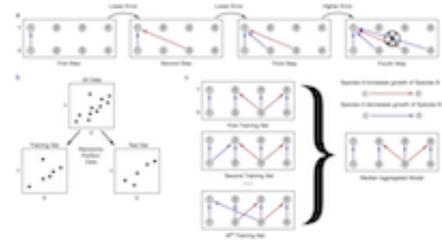
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## Time series help to identify gut microbial species interactions

Seen on PLoS ONE  
Charles K. Fisher and Pankaj Mehta - 2014

Fisher and Mehta developed a method which aimed to detect interaction between gut microbial species from metagenomics abundance data. Keeping in mind that finding a correlation does not mean interaction, they integrate times series to identify keystone species.

Using a time-series approach called LIMITS (Learning interactions for microbial time series, see figure) to test interactions in the gut microbiome of two individuals, they identified “keystone species” that have a disproportional influence on the structure of the gut microbiome even though they are only found in moderate abundance.



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Written by J. TAP



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## Microbiota meet Big Data

Seen on the Nature Chemical Biology

Recent research in the field of human gut microbiota and diseases has generated a huge amount of data that now need to be transformed to valuable information for healthcare professionals. In its last issue, Nature Chemical Biology published an editorial describing the value of big data analysis tools with the perspective of better understanding and finding applications for knowledge of the microbiota.

[Read more](#)

Written by PY. ARNOUX



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The Gut Microbiota For Health Experts Exchange is a medium to share news, innovation and information between experts on the topics of Gut Microbiota for Health.

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