

The Gut Microbiota For Health Newsletter #19

November 7, 2013

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Dear Friends,

In this week's newsletter, we have a broad range of gut microbiota studies we wish to put forward. The first paper involves a lot of collaborators from the MetaHIT consortium and describes a new method for taxonomic profiling of metagenomes using marker genes. The method shows that large portions of the gut microbiota (on average 43% of species abundance and 58% of the richness) cannot be captured by current reference genome-based methods.

In the field of gut brain axis research, a study from the University College Cork in Ireland points to a possible link between the gut microbiota and depression and calls for further investigation of implications of affective co-morbidities (major depression and anxiety states) on functional bowel disorders.

Finally a review by C. G. Buffie and E. G. Pamer discusses how the composition of the commensal microbiota influences the resistance against antibiotic-resistant intestinal pathogens. Besides those interesting papers, we also invite you to listen to Dr Brett Finlay's extensive lecture "Bugs 'R Us", that was recently broadcasted on CBC/Radio-Canada.

Visit gutmicrobiotaforhealth.com and share your thoughts, comments and references with us.

Written by Y. WINOGRADSKY

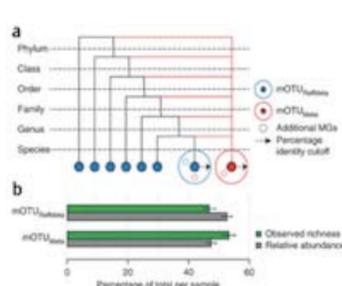
Metagenomics Species Profiling Using Universal Phylogenetic Marker Genes

Seen on [Nature Methods](#)

To quantify known and unknown microorganisms at species-level resolution using shotgun sequencing data, we developed a method that establishes metagenomic operational taxonomic units (mOTUs) based on single-copy phylogenetic marker genes.

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Melancholic Microbes: A Link Between Gut Microbiota And Depression?

Seen on [NCBI](#)

There is a growing awareness of the potential for microbiota to influence gut-brain communication in health and disease. A variety of strategies have been used to study the impact of the microbiota on brain function and these include antibiotic use, probiotic treatments, fecal microbiota transplantation, gastrointestinal infection studies, and germ-free studies. All of these approaches provide evidence to support the view that the microbiota can influence brain chemistry and consequently behavior.



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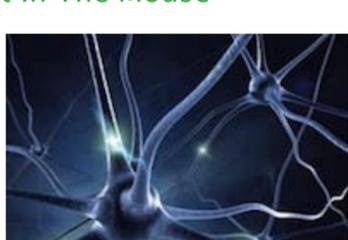
Selected by Y. WINOGRADSKY



Microbiota Is Essential For Social Development In The Mouse

Seen on [Nature](#)

The microbiota-gut-brain axis is an emerging concept in modern medicine informed by the ability of gut microbiota to alter brain and behaviour. Although some clinical studies have revealed altered gut microbiota composition in patients with neurodevelopmental disorders such as autism the specific contributions of microbiota in early life to the development and programming of the various facets of social behaviour has not been investigated.



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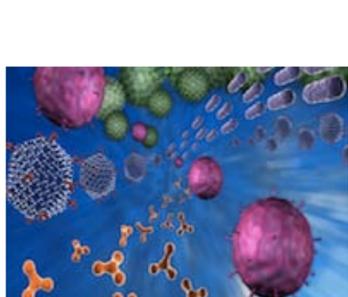
Selected by Y. WINOGRADSKY



Microbiota-Mediated Colonization Resistance Against Intestinal Pathogens

Seen on [Nature Reviews](#)

Commensal bacteria inhabit mucosal and epidermal surfaces in mice and humans, and have effects on metabolic and immune pathways in their hosts. Recent studies indicate that the commensal microbiota can be manipulated to prevent and even to cure infections that are caused by pathogenic bacteria, particularly pathogens that are broadly resistant to antibiotics, such as vancomycin-resistant *Enterococcus faecium*, Gram-negative *Enterobacteriaceae* and *Clostridium difficile*.



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Spatial Heterogeneity And Co-Occurrence Patterns Of Human Mucosal-Associated Intestinal Microbiota

Seen on [Nature](#)

Human gut microbiota shows high inter-subject variations, but the actual spatial distribution and co-occurrence patterns of gut mucosa microbiota that occur within a healthy human intestinal tract remain poorly understood.



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HIV Infection Is Associated With Compositional And Functional Shifts In The Rectal Mucosal Microbiota

Seen on [Microbiome Journal](#)

Regardless of infection route, the intestine is the primary site for HIV-1 infection establishment and results in significant mucosal CD4 T lymphocyte depletion, induces an inflammatory mucosal CD4 T lymphocyte depletion, induces an inflammatory mucosal CD4 T lymphocyte depletion, facilitates microbial translocation, and fosters establishment of one of the largest HIV reservoirs.



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Bugs 'R Us

Seen on [CBC](#)

We are constantly at war with microbes -- SARS, MERS, E.coli, C.difficile -- filthy little organisms that threaten our health and safety. These pathogens can be deadly, but have we gone too far? Is eliminating our exposure to microbes actually bad for us? Microbiologist Dr. Brett Finlay argues that we're entering a golden era in our understanding of microbes, and that new technologies are giving us unprecedented insights into health and disease.



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[Symposium] Resident Microbiota, The Immune System, And Health

The Center for Molecular and Clinical Epidemiology of Infectious Diseases of the University of Michigan hosted the "Resident microbiota, the immune system, and health" on October 25th, 2013. The [webpage](#) dedicated to the event contains valuable references to the speakers' presentations.



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Written by Y. WINOGRADSKY



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.

This message was sent to A.Leonhartsberger@medadvice.co.at from:

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