



International Society of Microbiota

Third World Congress on

Targeting Microbiota

***Workshop on Exploration &
Sequencing of Human Microbiota:
The Perfect Signature***

**October 21-22-23, 2015
Institut Pasteur
Paris, France**

Microbiota 2015 - 3 days Program



International Society of Microbiota

Targeting Microbiota 2015 Towards Clinical Revolution

October 21-22-23, 2015 – Institut Pasteur - Paris

Dear Colleagues,

It is a pleasure to welcome you for the **3rd World Congress on Targeting Microbiota** which will be held at **Institut Pasteur**, Paris, France on **October 21-23, 2015**.

During Pasteur Congress, many hot topics will be discussed:

- The Role of Microbiota in Health and Diseases: The Mechanistic Aspects
- Recent Advances on Microbiota Clinical Researches & Innovations in 2015
- Microbiota & Biomarkers: From Predictive to Personalized Medicine
- New Challenges to Prevent and Treat Metabolic Diseases, Cancer, Liver, Kidney, Lung and Inflammation-Related Diseases
- Impact of Environment, Food Conservators & Antibiotics on the quality and biodiversity of microbiota
- Can we modulate the diversity and quality of microbiota?
- Skin Microbiota: Recent advances on its characterization and manipulation in diseased conditions
- Fecal Microbiota Transplantation: Practical Issues & Regulation

Workshop: Exploration & Sequencing of Human Microbiota: The perfect signature

All you need to know about the recent methods, devices and platforms will be presented during this workshop, organized on October 21.

To conclude this congress, a general discussion will be held between speakers, scientists and industry sector about Microbiota and medicine of tomorrow. Among questions which will be discussed:

- Can one strain fit with all populations?
- To date, the most relevant challenge: can we modulate and manipulate the human gut microbiota?
- How diet, food, antibiotics, hormones, prebiotics and faecal microbiota can affect resident microbiota?
- How to avoid speculations and marketing on microbiota not supported by actual data?

We look forward welcoming you during Targeting Microbiota congress.

Dr Yuri Ikeda – Dr Marvin Edeas

Chairmen of the International Society of Microbiota



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Workshop on Exploration & Sequencing of Human Microbiota: The Perfect Signature

October 21, 2015 – Institut Pasteur - Paris

The scientific committee of the International Society of Microbiota (ISM) dedicates a workshop on ***Exploration & Sequencing of Human Microbiota: The Perfect Signature***.

All you need to know about microbiome and microbiota, studies, analysis, devices, recent methods and platforms will be presented during the workshop organized on **October 21**, at Institut Pasteur.

One of the critical questions which will be discussed is **how to interpret these analyses?**

The scientific committee of ISM invites the academics and the industrials to present their innovations. Without the innovations coming from the industrial side, we cannot translate the fundamental researches undertaken by clinicians and academics.

During Pasteur workshop, a special timing will be allocated to industrials to present the methods and devices to analyze and sequence the microbiota. Among the industrials who will participate to this session:

Libragen, Genoscreen, Lifesequencing, DNAVision, Vaiomer...

Among the strategic questions which will be discussed:

- All steps you need to know to study microbiota: from faecal extraction to bioinformatics
- What are the recent and recent methods to sequence and analyze human microbiota?
- How to interpret the analyses? The strategic role of bioinformatics
- How to standardize protocols for exploring human microbiota? Focus on gut & skin microbiota
- Can we identify a specific signature of each person: towards a new era in personalized medicine?
- Can we talk about a revolution in medicine?

At the end of the workshop, the scientific committee will discuss the following questions:

- Can we manipulate microbiota?
- Can we talk about diversity and quality of microbiota?
- Microbiota or Metabolites: the subtle balance



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Third World Congress on Targeting Microbiota

October 21-22-23, 2015 – Institut Pasteur

Agenda

Day 1: October 21, 2015

Workshop on Exploration & Sequencing of Human Microbiota: The Perfect Signature

Chairs: Hervé Blottière, Grégory Dubourg, Knut Rudi

7h30 Opening of Pasteur Institute – Your ID/Passport is request to access to congress

7h45 Registration & Welcoming for Workshop

8h55 Opening Ceremony by chairman of International Society of Microbiota

Microbiota/Microbiome: Steps & Methods

9h00 Introduction of ISM Workshop: Screening method to study host microbiota interactions in human intestine

Hervé Blottière, MetaGenoPolis, France

Dr Blottière proposes to use a functional metagenomic approach in order to model the microbiota's interaction with the host by combining the heterologous expression with intestinal reporter cell lines. He presents a methodology allowing a high throughput screening combining two biological systems. Therefore ideal conditions for homogeneity, sensitivity and reproducibility of both metagenomic clones as well as reporter cell lines have been identified and validated. We believe that this innovative method will allow the identification of new bioactive microbial molecules and, subsequently, will promote understanding of host-microbiota interactions.

10h00 **Culturomics and pyrosequencing: two complementary techniques to study the gut microbiome**
Grégory Dubourg, Université de Marseille, France

11h00 Coffee Break & Network Session

What we can learn from microbiota analysis and how to apply this to animal health?

11h30 **Dynamic interactions of the equine hindgut microbiota in health and disease**
Knut Rudi, Norwegian University of Life Sciences, Norway

12h15 **Discussion: The Academic Point of View**

12h45 Lunch Break & Network Session

Clinical & Industrial Innovations

An exhibition space will be dedicated to industrials.
Among exhibitors: Libragen, Genoscreen, MoBio, Vaiomer

14h00 **Why should we care about primers and platform in microbiota analysis?**
Francisco Codoñer, Lifesequencing, Spain



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Mr Codoñer will highlight the following points:

- a) Sample taken and conservation. Some considerations have to be taken in order to avoid the increase of aerobic bacterial and decrease of anaerobic ones that could affect to the bacterial detection and count and to the conclusions.
 - b) 16s rRNA region of study. Depending on the region we are going to detect different profiles, optimal V3-V5.
 - c) Set of primers used. This is another key point, since different set of primers will pick different groups of bacteria. We will provide a comparison between two sets of primers mostly used.
 - d) Massive sequencing platform. 454 has been describe as gold standard in this kind of studies, specially to reach a good species taxonomical identification, we will show how MiSeq can be used as a real alternative to the 454.
 - e) Databases. This is another key point, not only for the analysis, but for the primer design and improvement, there is no complete database that can make the thing easy to analyse and interpret.
- He will highlight that through the microbiome (mostly coming from faeces), they will be able to disentangle the alterations or illnesses that a patient is suffering and maybe change to normal conditions with the introduction of an antibiotic, prebiotic or probiotic.

14h45 Evolution and challenges of NGS technologies for microbiota analysis and their validation for diagnostic

Sébastien Massart, DNA Vision, Belgium

NGS technologies have revolutionized the landscape of microbiota studies. Through a critical overview, the talk will review the pros and cons of the 3 main protocols to study microbiota by NGS. The challenges and opportunities of these developments will be underlined as well as the road toward their use in diagnostics.

15h30 Coffee Break & Network Session

16h00 Industrial Presentations

16S sequencing analysis: comparison between RSII PacBio versus Illumina MiSeq

David Vilanova, Bioinformatics & Bioanalysis Director, Libragen, France

16h30 Important Considerations for Robust and Unbiased DNA and RNA Sample Prep for Microbiome Studies

The number of Microbiome projects is exploding worldwide thanks to the democratization of next generation sequencing, which is affordable more than ever.

While a lot of focus is now put on data analysis challenges, due to the enormous volume of data generated, it is essential to remember the importance of the first step of the study workflow: nucleic acid purification.

Starting sample complexity and diversity is greater than ever and challenging samples such as human feces, skin, body fluids, and environmental samples are being analyzed. Thus, it is crucial to ensure that this first step of sample preparation is as unbiased as possible, enabling the full representation of microbial diversity to be examined, and to remove inhibitors of downstream applications, increasing sensitivity.

We are proposing to review the main technologies available to ensure that scientists do not start their experiment with "just DNA or RNA" but with "clean and unbiased DNA or RNA"

Sandrine Miller, MO BIO Laboratories, USA

17h00 Practical aspects of microbiota and kidney diseases: how to evaluate the impact of microbiota variations on hemodialysis patients?

Mokthar Chawki, Clinique du Parisis, France

Dr Chawki is studying the impact of probiotics on hemodialysis patients. He will present the clinical protocol and discuss how to interpret the variability of microbiota.

17h30 Discussion: The industrial point of view

17h50 Concluding remarks with the scientific committee and speakers

Can we manipulate microbiota?

Can we talk about diversity and quality of microbiota?

Microbiota or Metabolites: the subtle balance

Presentation of ISM Platform

18h15 End of the first day

14h30 – 17h30 Registration for days 2 & 3



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Day 2: October 22, 2015

**Chairs: Lorenzo Drago, Serguei Fetissov, Ernst Holler
Javier Pizarro-Cerda, Harry Sokol, Liping Zhao**

7h30 Registration – Posters Installation

Session 1: Recent Advances on Microbiota Researches & Innovations in 2015

9h00 Introduction Lecture - Microbiota 2015: Towards a revolution?
Yuri Ikeda, Chairman of the International Society of Microbiota, Japan

9h25 The gut microbiota & obesity: from correlation to causality
Liping Zhao, Shanghai Jiao Tong University, China

9h50 Role of gut bacteria in host control of appetite
Serguei Fetissov, Rouen University, France

10h15 Modulation of host microbiota by *Listeria monocytogenes*
Javier Pizarro-Cerda, Institut Pasteur, France

10h40 Coffee Break, Posters & Exhibition Session

11h10 Role of gut microbiota in Parkinson's disease
Filip Scheperjans, Helsinki University Central Hospital, Finland

11h35 Short Oral Presentations

Prenatal stress and gut microbiota diversity in middle-pregnancy – future tool for screening prenatal stress exposure?
Henna-Maria Uusitupa, University of Turku, Finland

Bifidobacterium animalis subsp lactis CNCM-I2494 restores gut barrier permeability in chronically low-grade inflamed mice
Rebeca Martin, Probihot, Micalis Institute, France

Rational selection of lactobacillus strains based on bile salt hydrolase activity
Sarah Long, University College Cork, Ireland

Maternal gestational stress-induced changes in gut microbiota correlate with alterations in the physiology of the adult offspring
Anna Golubeva, University College Cork, Ireland

Diet, gut inflammation and the microbiota: preventing autoimmune diabetes in the intestinal mucosa
Marika Falcone, San Raffaele Scientific Institute, Italy

Colonization of mice with Lactobacillus positive or negative human infant microbiota influences immune maturation in offspring
Halga Dagbjort Petursdottir, Stockholm University, Sweden

Minigut – a small volume colon model with increased throughput
Maria Wiese, University of Copenhagen, Denmark

12h35 Lunch Break, Posters & Exhibition Session



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Session 2: Microbiota Signature & Predictive Medicine

- 14h00 Cancer & microbiota: potential of fecal microbiota for early-stage detection of colorectal cancer**
[Iradj Sobhani](#), Hôpitaux Universitaire Henri Mondor, France
- 14h25 Taxonomic and functional metagenomic analysis of the airway samples from cystic fibrosis patients with lower and higher pulmonary function decline**
[Annamaria Bevivino](#), ENEA Casaccia Research Centre, Italy
- 14h50 Metagenomic analysis of the microbiota in patients receiving allogeneic SCT: Role of harmful versus protective microbiota and the impact of antibiotic prophylaxis and treatment**
[Ernst Holler](#), University Medical Center, Germany

15h15 Short Oral Presentations

Identification of blood bacterial profiles associated with liver fibrosis in obese patients
[Benjamin Lelouvier](#), Vaiomer, France

15h30 Coffee Break, Posters & Exhibition Session
One-Hour Posters Session around Snacks & Drinks

Session 3: Fecal Microbiota Transplantation: Practical Issues & Regulation

- 16h30 Fecal Microbiota Transplantation: recent scientific data**
[Harry Sokol](#), Hôpital Saint Antoine, France
- 16h55 Fecal microbiota in pediatric inflammatory bowel disease and its relation to inflammation**
[Katri Korpela](#), Helsinki University, Finland
- 17h20 Juristical hurdles and possibilities for companies providing faecal transplant services**
[Andreas Schwartz](#), MVZ Institut für Mikroökologie, Germany
- 17h45 Short Oral Presentations**
- Anaerobically Cultivated Human Intestinal Microbiota**
[Atti-La Dahlgren](#), Karolinska Institutet, Sweden
- SYN-004, a novel strategy to protect the gut microbiome from the deleterious effects of residual IV β -lactam antibiotics**
[John F. Kokai-Kun](#), Synthetic Biologics, USA
- Does the gut microbiome affect mucosal immune activation and intrarectal susceptibility to shiv acquisition in naïve rhesus macaques?**
[Yongjun Sui](#), National Cancer Institute, National Institutes of Health, USA
- Manipulating the human microbiome using polyphenol rich foods, supplements, and prebiotics, coupled with avoidance of major dietary lectins reverses endothelial dysfunction**
[Robert Steven Gundry](#), The International Heart and Lung Institute, USA
- Association of gut microbiota and host serum cholesterol**
[Orawan La-Ongham](#), Kasetsart University, Thailand



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Business, regulatory & clinical challenges in commercializing a next-generation FMT drug for recurrent Clostridium Difficile Infection: A US Perspective

Lee Jones, Rebiotix, USA

Antibiotic effect monitoring using metagenomic signatures

Dmitry Alexeev, Research Institute of Physico-Chemical Medicine, Russian Federation

Microbially mediated bile alterations affects host metabolism

Susan Anne Joyce, APC microbiome Institute, Ireland

19h00 End of the Second Day

20h00 Targeting Microbiota Dinner in a typical French restaurant

You can register online until October 14, 2015.



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Day 3: October 23, 2015

Chairs: Rémy Burcelin, Premysl Bercik, John-Olov Jansson, Jacques Ravel

Session 4: The Microbiota Role in Health & Diseases – Perspectives & Strategies

Targeting Skin Microbiota

- 9h00 Lactobacillus salivarius LS01 and Bifidobacterium breve BR03 combination in atopic dermatitis: which evidences?**
Lorenzo Drago, University of Milano, Italy

Targeting Vaginal Microbiota

- 9h25 The interactions between the host, the vaginal microbiota and sexually transmitted infections**
Jacques Ravel, Institut Pasteur, France
- 9h50 The impact of erythromycin on the vaginal microbiome in women with preterm premature rupture of the fetal membranes (PPROM)**
David MacIntyre, Imperial College London, United Kingdom

Microbiota & HIV Infection

- 10h15 Major shifts in the gut microbiota associated with HIV infection**
Grégory Dubourg, Université de Marseille, France

10h40 Coffee Break, Posters & Exhibition Session
One-Hour Posters Session around Snacks & Drinks

Microbiota & Celiac Diseases

- 11h35 Gut microbiota: novel & strategic players in celiac disease pathogenesis**
Elena F. Verdu, McMaster University, Canada

12h00 Short Oral Presentations

Enteric Dialysis-stabilization of the gut microbiome using probiotics and prebiotics (gut-kidney connection)
Natarajan Ranganathan, Kibow Biotech, USA

Contribution of human gut microbiota metabolism in anti-inflammatory activities of ellagitannin-rich medicinal plants
Jakub P. Piwowarski, Medical University of Warsaw, Poland

Microbial communities of early-stage Crohn's disease tissues
Louise Claire O'Brien, Canberra Hospital and Australian National University, Australia

Cocoa bioactives, gut microbiota and mitochondria
Yvan Petyaev, Lycotec, United Kingdom

12h30 Lunch Break, Posters & Exhibition Session



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Microbiota & Metabolic Diseases

- 13h45 Tissue microbiota, the next generation paradigm of metabolic disease**
Rémy Burcelin, Inserm U1048, France
- 14h10 Regulation of body fat mass by the gut microbiota: possible mediation by the brain**
John-Olov Jansson, Sahlgrenska Academy at Gothenburg University, Sweden
- 14h35 Pancreatic beta-cells limit autoimmune diabetes: strategic role of gut microbiota**
Julien Diana, Inserm, Université Paris Descartes, France

Microbiota & Depression

- 15h00 The link between depression and gut microbiota**
Premysl Bercik, MacMaster University, Canada

15h25 Coffee Break, Posters & Exhibition Session

15h55 Short Oral Presentations

New insights into post-infectious sequelae: enteropathogen-induced disruptions of human gut mucosal microbiota biofilms cause intestinal inflammation
Gerald Andre Buret, University of Calgary, Canada

Antibacterial mouthwash blunts oral nitrate reduction and increases blood pressure in treated hypertensive men and women
Catherine Bondonno, University of Western, Australia

The effects of Clostridium Ramosum on enterohaemorrhagic Escherichia Coli O157:H7
Yukako Koyanagi, Tohoku University, Japan

The microbiota shifts the iron sensing of intestinal cells
Muriel Thomas, INRA, France

Use of microbial networks as a strategy to recover from gut dysbiosis
Massimo Marzorati, Ghent University, Belgium

Methods for improving human gut microbiome data by reducing variability through sample processing and storage of stool
Deanna Gibson, University of British Columbia, Canada

Pancreas insufficiency in cystic fibrosis patients drives a different fecal microbiota and metabolic phenotype
Valerio Iebba, Sapienza University of Rome, Italy

17h05 General Discussion of Targeting Microbiota 2015:

- *Can one strain fit with all populations?*
- *To date, the most relevant challenge: can we modulate and manipulate the human gut microbiota?*
- *How diet, food, antibiotics, hormones, prebiotics and faecal microbiota can affect resident microbiota?*
- *How to avoid speculations and marketing on microbiota not supported by actual data?*

In the presence of Organizers & Speakers from scientific committee

Targeting Microbiota 2015 Awards
Concluding Remarks by the chairs

18h00 End of Targeting Microbiota 2015



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**For all request concerning demonstrations,
exhibition and general information, please contact:**

John Edwards – Erica Takayama

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