

**2nd**  
**TNO**

# Beneficial Microbes Conference

PROGRAMME AND REGISTRATION

**TNO | Knowledge for business**



International conference  
on the health impact  
and future potential  
of beneficial microbes

NH Conference Centre Leeuwenhorst,  
Noordwijkerhout, the Netherlands

**15-17 March 2010**

# Welcome

With great pleasure we present to you the conference programme of the '2<sup>nd</sup> TNO Beneficial Microbes Conference' to be held at 15-17 March 2010 in the NH Conference Centre Leeuwenhorst in Noordwijkerhout, the Netherlands.

The microbiota in the gastro-intestinal tract of man and animals has been shown to be important for health and disease. For instance, a clear role has been established for the endogenous microbiota in inflammatory diseases such as ulcerative colitis and Crohn's disease. But also a role in colon cancer has been suggested. Even a role in such diverse diseases or disorders as obesitas and autism has been postulated.

Moreover, over the past decades, the benefit of probiotics has been shown in various areas, including allergy, inflammatory disease, competitive exclusion of pathogens, stool habit, and even reduction of sick-days in the case of flu or stress at work.

Furthermore, probiotics and prebiotics are used in infant formula to direct the development of the endogenous microbiota. For probiotics, an interaction with the mucosal immune system seems the major mechanism by which these beneficial microbes exert their benefit to the host. Numerous hypotheses on how they might work have been postulated recently. The role of pre-biotics in directing the composition and activity of the endogenous microbiota is also studied widely.

The 2<sup>nd</sup> TNO Beneficial Microbes Conference will highlight the most recent advances in the understanding of the mechanisms behind the health benefit of probiotics and how the endogenous microbiota influences health and disease. Novel tools will be presented and the implementation of systems biology in this research area will be highlighted. An important aspect is application of beneficial microbes, both through probiotics and prebiotics (via the endogenous microbiota), for product development in food and feed industry.

The specific topic areas are the interplay between beneficial microbes and nutrition, the crosstalk between microbes and epithelium or, immune system, application in the gut and elsewhere in man and animals, and future developments in the field of beneficial microbes in the food and feed industry.

We aim at a networking meeting to inform you on the latest scientific developments and the industry's requirements and to create a European platform for new initiatives for the application of beneficial microbes in the food and feed industry.

On behalf of the Advisory Board,

Koen Venema and Marjorie Koenen

## Advisory Board

**Prof.dr. Jerry Wells**, *Wageningen University, the Netherlands (chairman)*

**Prof.dr. Dirk Haller**, *Technical University of Munich, Germany*

**Dr. Kikuji Itoh**, *The University of Tokyo, Japan*

**Dr. Marjorie Koenen**, *TNO Quality of Life, the Netherlands*

**Dr. Annick Mercenier**, *Nestlé Research Centre, Switzerland*

**Prof.dr. Theo Niewold**, *Katholieke Universiteit Leuven, Belgium*

**Dr. Gregor Reid**, *University of Western Ontario, Canada*

**Dr. Koen Venema**, *TNO Quality of Life, the Netherlands*

# Programme at a glance

<b>Sunday</b> 14 March 2010	17.00- 22.00	<b>Registration desk open</b>
<b>Monday</b> 15 March 2010	10.30 – 12.15	SESSION 1 <b>Setting the scene</b>
	13.30 – 15.30	SESSION 2 <b>Gut microbiome-host metabolic crosstalk</b>
	16.00 – 18.00	SESSION 3 <b>Host-microbe crosstalk</b>
	18.00 – 19.30	<b>TNO's Lounge Party + poster session</b>
<b>Tuesday</b> 16 March 2010	08.30 - 10.15	SESSION 4 <b>Microbial influence on the immune system</b>
	10.45 - 12.30	SESSION 5 <b>Beneficial microbes in early life</b>
	13.30 - 15.15	SESSION 6 <b>There's more to life than the gut!</b>
	15.45 - 18.00	SESSION 7 <b>Beneficial microbes in feed applications</b>
	18.00 - 19.30	<b>Drinks + poster session</b>
	20.30 – 23.00	<b>Conference dinner</b>
<b>Wednesday</b> 17 March 2010	08.30 – 10.30	SESSION 8 <b>More probiotic applications than you imagined</b>
	11.00 – 12.30	SESSION 9 <b>Future developments: system biology</b>

**For information on the Beneficial Microbes and/or Gut Health research programs within TNO, please contact:**

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# Monday 15 March 2010

**10.30**      **Opening of the 2<sup>nd</sup> TNO Beneficial Microbes Conference**

## SESSION 1: **Setting the scene**

**Chair:**      Dr. Koen Venema, *TNO Quality of Life, the Netherlands*

**10.45**      **Applications of beneficial microbes: state of the art!**  
Dr. Mary Ellen Sanders, *Dairy & Food Culture Technologies, USA*

**11.15**      **Eubiosis and dysbiosis of the microbiota in health and disease**  
Dr. Joël Doré, *INRA, France*

**11.45**      **The microbiota in weight management**  
Dr. Arthur Ouwehand, *Danisco, Finland*

**12.15**      **Lunch**

## SESSION 2: **Gut microbiome-host metabolic crosstalk**

**Chair:**      Prof.dr. Jerry Wells, *Wageningen University, the Netherlands*

**13.30**      **Does the gut microbiota contribute to the development of insulin resistance?**  
Dr. Chieh-Jason Chou, *Nestlé Research Center, Switzerland*

**14.00**      **The interaction of SCFA with the adipose tissue: relevance for Type 2 Diabetes**  
Prof.dr. Roel Vonk, *University of Groningen, the Netherlands*

**14.30**      **Stable-isotope technology to gain knowledge on crosstalk between microbe and host**  
Dr. Albert de Graaf, *TNO Quality of Life, the Netherlands*

**15.00**      **Contributed paper**

**15.15**      **Contributed paper**

**15.30**      **Networking break & exhibition**

## SESSION 3: **Host-microbe crosstalk**

**Chair:**      Prof.dr. Jerry Wells, *Wageningen University, the Netherlands*

**16.00**      **Life in the slime**  
Prof.dr. Gunnar Hansson, *University of Gothenburg, Sweden*

**16.30**      **The role of beneficial microbes in the gut-brain axis: reduction of pain perception**  
Prof.dr. John Bienenstock, *McMaster University, Canada*

**17.00**      **Early life stress: beneficial microbes as a helper against psychiatric illnesses?**  
Dr. Siobhain O'Mahony, *University College Cork, Ireland*

**17.30**      **Contributed paper**

**17.45**      **Contributed paper**

**18.00 - 19.30**      **TNO's Lounge Party/Poster session**

## SESSION 4: **Microbial influence on the immune system**

**Chair:** Prof.dr. Dirk Haller, *Technical University of Munich, Germany*

**08.30** **Regulation of adaptive immune cell differentiation by intestinal commensal bacteria**  
Dr. Kenya Honda, *Osaka University, Japan*

**09.00** **Post-translational inhibition of proinflammatory chemokine secretion in intestinal epithelial cells: implications for chronic intestinal inflammation**  
Dr. Gabriele Hörmannspurger, *Technical University of Munich, Germany*

**09.30** **Probiotics and the immune system: an industrial perspective**  
Dr. Joost van Neerven, *FrieslandCampina, the Netherlands*

**10.00** **Contributed paper**

**10.15** **Networking break & exhibition**

## SESSION 5: **Beneficial Microbes in early life**

**Chair:** Dr. Annick Mercenier, *Nestlé Research Centre, Switzerland*

**10.45** **Microbe-driven immune development in early life**  
Prof.dr. Johan Garssen, *Danone, the Netherlands*

**11.15** **Beneficial microbes for premature babies with NEC infection**  
Prof.dr. Yuichiro Yamashiro, *Juntendo University, Japan*

**11.45** **Probiotics and allergy: a clinical perspective**  
Dr. Jon Vanderhoof, *Mead Johnson Nutrition, USA*

**12.15** **Contributed paper**

**12.30** **Lunch break**



## SESSION 6: **There's more to life than the gut!**

**Chair:** Dr. Marjorie Koenen, *TNO Quality of Life, the Netherlands*

**13.30** **Beneficial microbes in the oral cavity**

Dr. Jeremy Burton, *Blis Technologies, New Zealand*

**14.00** **Beneficial microbes in the urogenital tract**

Dr. Gregor Reid, *University of Western Ontario, Canada*

**14.30** **Microbes on the surface: molecular analysis of the skin microbial flora**

Dr. Bart Keijser, *TNO Quality of Life, the Netherlands*

**15.00** **Contributed paper**

**15.15** **Networking break & exhibition**

## SESSION 7: **Beneficial microbes in feed applications, an update**

**Chair:** Prof.dr. Theo Niewold, *Katholieke Universiteit Leuven, Belgium*

**15.45** **Dietary manipulation of rumen microbiota to reduce methane production**

Dr. Diego Morgavi, *INRA, France*

**16.15** **Applications of beneficial microbes in pigs**

Prof.dr. Paolo Bosi, *University of Bologna, Italy*

**16.45** **Applications of beneficial microbes in poultry production: an overview**

Dr. John Patterson, *Purdue University, USA*

**17.15** **Probiotics for companion animals: a brief review**

Dr. Jane McNae, *Probiotics International, UK*

**17.45** **Contributed paper**

**18.00- 19.30** **Drinks during poster presentations**

**20.30** **Conference dinner**

## SESSION 8: **More probiotic applications than you imagined**

**Chair:** Dr. Gregor Reid, *University of Western Ontario, Canada*

**08.30 Pre- and probiotics for human skin**

Prof. dr. Jean Krutmann, *Heinrich-Heine-University, Germany*

**09.00 Pathophysiological basis of immune dysfunction in liver failure: strategies for novel therapeutic approaches**

Prof.dr. Rajiv Jalan, *University Colloge London, UK*

**09.30 Probiotics may help women regain their figures after pregnancy**

Dr. Kirsi Laitinen, *University of Turku, Finland*

**10.00 Can probiotics affect flu and immunity against H1N1?**

Prof.dr. Juergen Schrezenmeir, *Federal Research Institute of Nutrition and Food, Germany*

**10.30 Networking break & exhibition**

## SESSION 9: **Future developments: System Biology**

**Chair:** Dr. Koen Venema, *TNO Quality of Life, the Netherlands*

**11.00 Systems biology strategies to uncover hidden host-microbe interactions: current insights, future applications**

Dr. Peter van Baarlen, *Wageningen University, the Netherlands*

**11.30 The new science of metagenomics: bioprospecting the secrets of microbial communities**

Dr. Daniel van der Lelie, *Brookhaven National Laboratory, USA*

**12.00 How to measure health improvement in apparently healthy people?**

Prof.dr. Renger Witkamp, *Wageningen University/TNO Quality of Life, the Netherlands*

**12.30 Closing of the 2<sup>nd</sup> TNO Beneficial Microbes Conference**

# General information

## Who should attend?

The **2nd TNO Beneficial Microbes Conference** is a meeting and networking point for the food and feed industry, regulatory authorities, consulting agencies and advisors, and scientists in the area of beneficial microbes.

## Venue

The **2nd TNO Beneficial Microbes Conference** will take place at the NH Conference Centre Leeuwenhorst ([www.nh-hotels.com](http://www.nh-hotels.com)) located in Noordwijkerhout in the countryside of the western part of the Netherlands. The conference centre is close to the cities Amsterdam and The Hague, approximately 20 minutes from Amsterdam Airport Schiphol and approximately 15 minutes-walk from the beach. The Conference Centre is surrounded by Holland's famous tulip fields.

## Fee and discount

The registration fee for the **2nd TNO Beneficial Microbes Conference** includes the book of abstracts, lunches and coffee/tea, TNO's Lounge Party as announced in the timetable. The participant fee does not include hotel accommodation. On Tuesday evening 16 March 2010 a conference dinner will be organised; reservations can be made on the Conference Registration Form.

## Full registration fee:

**EUR 800.- (19% VAT inclusive).**

*Early registration discount:* Participants registering and paying before 1 December 2009 are qualified for the early registration discount, the participant fee being EUR 685.- (19% VAT inclusive).

## Discounted registration fee:

**EUR 565.- (19% VAT inclusive) for participants from universities**

*Early registration discount:* Participants from universities registering and paying before 1 December 2009 are qualified for the early registration discount, the participant fee being EUR 450.- (19% VAT inclusive).

## Special registration fee:

Every paying participant may be accompanied by one participant for a special registration fee of EUR 420.- (19% VAT inclusive) provided that the following conditions are met:

- the paying participant and the accompanying participant are employed with the same company/organisation at the same location; and
- the paying participant and the accompanying participant register and pay at the same time.

## Registration

To register for the **2nd TNO Beneficial Microbes Conference** please fax or send the enclosed Registration Form to the Conference Secretariat. It is also possible to register on-line ([www.bastiaanse-communication.com](http://www.bastiaanse-communication.com)).

The registration desk will open on Sunday 14 March 2010 at 17.00h.

## Hotel accommodation

Participants are responsible for making their own room reservations by using the enclosed Hotel Accommodation Form, which should be faxed or sent to the Conference Secretariat.

The hotel is holding a block of rooms at a reduced rate for participants. Depending on the attendance participants might be accommodated in other hotels than NH Conference Centre Leeuwenhorst.

## Exhibition/sponsorship

Parallel to the conference a commercial exhibition will be organised in which presentations of services and products are given. Participants of the conference have the opportunity to visit the exhibition during the various breaks. Companies and organisations interested in having an exhibition stand or in sponsoring are invited to contact the Conference Secretariat.

## Call for abstracts of papers and posters

The Advisory Board of the '2nd TNO Beneficial Microbes Conference' issues a call for abstracts, inviting the submission of abstracts to two categories:

- contributed papers (oral presentation);
- posters.

Interested participants are strongly encouraged to submit abstracts (400 words) for papers and posters! Posters will be displayed throughout the conference.

## Important deadlines:

### Contributed papers:

- deadline for submission: 15 October 2009
- deadline of notification of acceptance: 1 November 2009

### Posters:

- deadline for submission: 1 February 2010
- deadline of notification of acceptance: 15 February 2010

## Language

English will be the official conference language.

## Internet

The latest programme details of the **2nd TNO Beneficial Microbes Conference** can be found at [www.bastiaanse-communication.com](http://www.bastiaanse-communication.com).

It may be necessary for reasons beyond the control of the organisers to alter the content and timing of the programme or the identity of the speakers.

## Secretariat TNO Beneficial Microbes Conference

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