



# ISAPP

INTERNATIONAL SCIENTIFIC  
ASSOCIATION FOR PROBIOTICS  
AND PREBIOTICS

[WWW.ISAPPSCIENCE.ORG](http://WWW.ISAPPSCIENCE.ORG)



## STEWARDSHIP

Individually and collectively, we endorse the proper use of the terms 'Probiotics' and 'Prebiotics'

## ADVANCING THE SCIENCE

We encourage research by facilitating interactions among scientists in the field, helping regulators understand the science, and publishing evidence-based summaries that highlight research gaps and promote needed research



## EDUCATION



We endeavor to disseminate scientifically accurate information on probiotic, prebiotic and microbiota science to enhance understanding of the science among researchers, students, and regulators

# 2019 ANNUAL REPORT



**January 1-December 31, 2019**

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## **CONTENTS**

INTRODUCTION .....	3
ISAPP's ACTIVITIES: STEWARDSHIP, ADVANCING THE SCIENCE, AND EDUCATION .....	4
BOARD OF DIRECTORS OCTOBER 1, 2018 – SEPTEMBER 30, 2019 .....	7
2019 INDUSTRY ADVISORY COMMITTEE MEMBER COMPANIES .....	8
APPENDIX. SUMMARY OF 18th MEETING OF ISAPP – ANTWERP .....	10



**Antwerp, Belgium – Meeting Site for 2019 ISAPP Annual Meeting**

## INTRODUCTION

ISAPP is an international, non-profit collaboration of scientists, which exists to advance scientific excellence in probiotics and prebiotics. ISAPP is the leading scientific organization dedicated specifically to probiotics and prebiotics, bringing together scientists from all pertinent disciplines, including microbiology, immunology, biochemistry, nutrition, molecular biology, food science and medicine.

As a scientific society, ISAPP activities are focused on science, not the promotion of any commercial products. The activities of ISAPP are dictated by an academic board of directors, and facilitated by the ISAPP's Executive Science Officer, Mary Ellen Sanders, PhD. Corporate membership dues fund ISAPP's activities. Industry scientists from corporate members comprise the ISAPP Industry Advisory Committee (IAC). Each year, the IAC elects a representative to serve in a non-voting, advisory capacity to the Board of Directors to facilitate communication of industry ideas and concerns to the Board.

This report features highlights of ISAPP accomplishments during 2019.

For additional details, see [www.isappscience.org](http://www.isappscience.org)

## ISAPP's ACTIVITIES: STEWARDSHIP, ADVANCING THE SCIENCE, AND EDUCATION

### Stewardship

- **Another day, another negative headline about probiotics?** ISAPP recognizes how important it is for science to be reported in a fair and unbiased manner. To counter some of the misleading information in the media, the board has reacted to articles that overgeneralize about probiotic harms or otherwise misconstrue scientific information about probiotics. See [here](#) for a summary of ISAPP responses.
- **Putting study on *L. rhamnosus* GG bacteremia into context.** The ISAPP response provided context for understanding reports of bacteremia in ICU patients in a 2019 *Nature Medicine* paper. [Lactobacillus bacteremia in critically ill patients does not raise questions about safety for general consumers](#)
- **Helping consumers know what's in the bottle.** On behalf of ISAPP, Mary Ellen Sanders serves as chair of the Expert Panel on probiotics for the United States Pharmacopeia (USP), working with industry and government scientists and USP staff to develop quality standards for probiotic supplements. She led the effort by this panel to publish important perspectives on probiotic quality. [Improving End-User Trust in the Quality of Commercial Probiotic Products](#).
- **Working toward global harmonization of probiotic regulations.** The topic of global harmonization of probiotics is on the agenda for the Codex Alimentarius meeting, November 24 – 29, 2019. ISAPP summarizes its perspectives [here](#), in this white paper: [“ISAPP position statement on minimum criteria for harmonizing global regulatory approaches for probiotics in foods and supplements”](#), and in this [post](#).
- **Improving scientific accuracy of resources on probiotics.** ISAPP attempted to update the Wikipedia page on probiotics. Although the current page is scientifically lacking, ISAPP was prevented from updating it due to Wikipedia procedures. This ISAPP report, developed by Dr. Mariya Petrova and Mary Ellen Sanders, is instead available as a white paper on our website [here](#).

### Advancing the Science

- **ISAPP Annual Meeting.** ISAPP convened its 18<sup>th</sup> annual meeting May 14-16<sup>th</sup>, 2019 in Antwerp, Belgium. [Meeting report](#).
- Two of *Nature Reviews Gastroenterology and Hepatology* most frequently downloaded papers are the ISAPP consensus statements on [probiotics](#) and [prebiotics](#). In 2019, ISAPP extended this approach of assembling panels of global experts to provide scientific clarity to the topics of synbiotics, fermented foods, and postbiotics.
  - **Consensus panel on synbiotics.** This panel, chaired by Prof. Kelly Swanson of University of Illinois, was held May 13, 2019 in Antwerp. The paper discussing the outcomes of this meeting is in press at *Nature Reviews Gastroenterology and Hepatology*.

- **Consensus panel on fermented foods.** This panel, chaired by Profs. Robert Hutkins and Maria Marco, was held September 17 in London. The paper summarizing conclusions of the panel has been submitted to *Nature Reviews Gastroenterology and Hepatology*.
- **Consensus panel on postbiotics.** This panel, chaired by Profs. Seppo Salminen and Hania Szajewska, was held December 9 in London UK. The paper summarizing conclusions of the panel is in preparation for submission to *Nature Reviews Gastroenterology and Hepatology*.
- **Adequate intake of live dietary microbes.** A discussion group, chaired by Profs. Colin Hill and Bob Hutkins, at ISAPP 2019 explored the value of an official recommendation on dietary intake of live microbes. An outcome of this group is the launch of a project to investigate the evidence available from large databases, such as NHANES.
- **Delivery matrix and probiotic/prebiotic functionality.** IAC representatives, Drs. Marla Cunningham and Roberta Grimaldi, organized and led a discussion during the IAC Learning Forum at ISAPP 2019 on *How does product formulation influence activity of prebiotic and probiotic products?* (Slides available [here](#) for 2019 meeting participants.) The outcomes are being prepared for publication.
- **Collaboration with ILSI-NA Gut Microbiome Committee.** Mary Ellen Sanders represents ISAPP on this committee. Comprising industry, government, non-profit organization and academic experts, this committee plans to organize an expert panel on assessing diet in microbiome studies.

## **Education**

ISAPP's education efforts have been focused on improving outreach to consumers, healthcare providers and other stakeholders.

- **Launching new website designed for easier navigation by different audiences.** See [here](#) for an overview of the new website.
- **Understanding microbiome data.** Dr. Gregory Gloor, Prof. of Biochemistry, University of Western Ontario, presented a webinar "[Understanding microbiome experiments: a critical assessment of methods and data analysis](#)".
- **Educational videos.** ISAPP has now updated 6 [videos](#), covering probiotics, prebiotics and fermented foods. Currently, Dr. Roberta Grimaldi is leading an effort to subtitle these videos in as many languages as possible.
- **Translated infographics.** ISAPP has several infographics available in 12 languages. See [here](#). We encourage our industry members to share these through their communication channels and communities, to facilitate sharing science-based information with consumers.
- **ISAPP blogs.** ISAPP appreciates that its audiences are interested in viewpoints of top experts in the field. Our Board and colleagues publish regular [blogs](#) and news posts that offer perspectives and important updates about the field.

- **ISAPP's monthly newsletter.** ISAPP publishes a [monthly newsletter](#), keeping subscribers current on ISAPP activities and important developments in the probiotic and prebiotic fields. Sign up [here](#).
- **FAQs.** ISAPP's Science Translation Committee prepared responses to many common questions about probiotics, prebiotics and fermented foods. See the new [FAQ page](#), under the Consumer tab.
- **Links with Parliamentarians.** The remit, purpose and successes of ISAPP were reported in July 2019 to an All Party Parliamentary Group (APPG) in the UK ([here](#)). This is a body of MPs, Peers and other opinion leaders who are influential in affecting health services and Government policy. The activities of ISAPP were very well received.

### Recent Papers from ISAPP Activities

- Sanders, M. E., D. J. Merenstein, G. Reid, G. R. Gibson, and R. A. Rastall. 2019. [Probiotics and prebiotics in intestinal health and disease: from biology to the clinic](#). Nat Rev Gastroenterol Hepatol. 2019 Oct;16(10):605-616.
- Scott KP, Grimaldi R, Cunningham M, Sarbini SR, Wijeyesekera A, Tang MLK, Lee JC-Y, Yau YF, Ansell J, Theis S, Yang K, Menon R, Arfsten J, Manurung S, Gourineni V, Gibson GR. 2019. [Developments in understanding and applying prebiotics in research and practice—an ISAPP conference paper](#). J Appl Micro128: 934—949. <https://doi.org/10.1111/jam.14424>
- Jackson S, Schoeni JL, Vegge C, Pane M, Stahl B, Bradley M, Goldman VS, Burguière P, Atwater JB, Sanders ME. [Improving End-User Trust in the Quality of Commercial Probiotic Products](#). Frontiers in Microbiol. 2019 Apr 17;10:739. doi: 10.3389/fmicb.2019.0073.
- King S, Tancredi D, Lenoir-Wijnkoop I, Sanders ME, Gould K, Vann H, Connors G, Linder J, Shane A, Merenstein DJ. [Does probiotic consumption reduce antibiotic utilization for common acute infections? A systematic review](#). 2019. Eur J Pub Health, cky185, <https://doi.org/10.1093/eurpub/cky185>.

### Helpful Links

[Full list of ISAPP Publications](#)

[18 years of annual meeting reports](#)

[Industry involvement in ISAPP](#)

## BOARD OF DIRECTORS OCTOBER 1, 2018 – SEPTEMBER 30, 2019

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## 2019 INDUSTRY ADVISORY COMMITTEE MEMBER COMPANIES

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ADM Protexin  
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Clasado Inc.  
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Deerland Enzymes and Probiotics  
Diananova  
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Friesland Campina Innovation Center  
Glac Biotech  
Gnosis by Lesaffre  
Ingredion Inc.  
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Pharmavite, LLC  
Prenexus Health  
Probi  
Procter & Gamble  
Sanofi  
Seed  
Sensus BV  
Suedzucker AG Mannheim/Beneo  
The Clorox Company  
UAS Laboratories, LLC  
Unilever  
Winclove BV  
Yakult Honsha Co.  
Yoplait France/General Mills  
Zespri



## WHAT PEOPLE ARE SAYING ABOUT ISAPP



### **ISAPP Industry Member**

“ISAPP provides unmatched scientific expertise and is an invaluable resource on probiotics and prebiotics. They are constantly working to advance the field scientifically and to educate nonscientists on the importance of probiotics and prebiotics for health.”

### **ISAPP - Student and Fellows Association Member**

“ISAPP provides a great platform for early career scientists in the field of pre- and probiotics to interact with leading scientists of the field, providing a unique opportunity to connect with like-minded researchers, develop networks, and stay up-to-date regarding the latest probiotic research. The annual meeting allows us to present our own work, ideas and perspectives and thereby actively promote our careers.”

### **ISAPP Board Member**

“ISAPP brings together top academic and industry scientists to creatively and effectively address important challenges to the probiotic, prebiotic and fermented foods fields.”

### **Expert at the Annual Meeting: What did you like about ISAPP 2019?**

“The level of engagement of all participants. The variety of scientific presentations. The camaraderie was palpable. The high quality of the posters.”

## APPENDIX. SUMMARY OF 18th MEETING OF ISAPP – ANTWERP

[Link to full 2019 meeting report](#)

ISAPP held its 18th annual meeting in Antwerp, Belgium May 14-16<sup>th</sup> 2019. The meeting brought together 175 scientists from 32 countries. In attendance were 72 industry representatives, 55 invited experts, and 48 members of the ISAPP Students and Fellows Association.



The meeting program included several different types of sessions, including:

- An exchange between the industry advisory committee (IAC) and board of directors regarding the ISAPP's past year's accomplishments and goals for the future.
- An IAC-organized Learning Forum on the topic of "How do different formulations of probiotic and prebiotic products affect activity and clinical outcomes?"
- An interactive "Springboard" session brainstorming ideas about facilitating evidence-based use of probiotics and prebiotics in health management.
- Plenary lectures featuring probiotics and prebiotics in nutrition, brain function and stress, the gut, human milk oligosaccharides, and vaginal microbiota.
- Five breakout discussion groups, each taking a deep-dive into a pertinent topic.
  - Probiotic applications for skin and urogenital health: potential versus pitfalls
  - Probiotics and prebiotics as adjuncts to drugs and facilitators of disease recovery
  - Prebiotic applications in children
  - The future of probiotics and prebiotics for human health
  - RDA for live microbes
- A poster session featuring 49 posters detailing state-of-the-art research from around the world

At this meeting, ISAPP participants also enjoyed a cruise of the Antwerp Harbor; a few lucky scientists got the opportunity to drive the boat.

Slides and abstracts for the meeting can be found on the ISAPP website under the "[Annual Meetings](#)" tab, available to meeting participants only.