

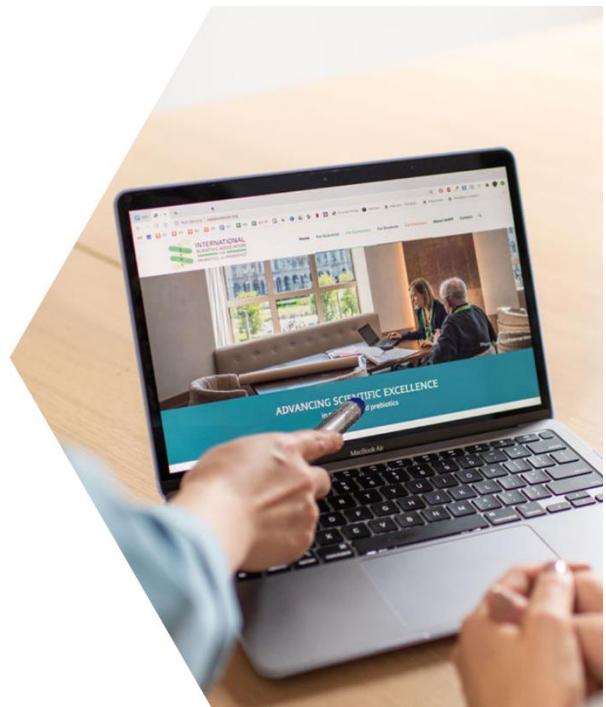


INTERNATIONAL
SCIENTIFIC ASSOCIATION
FOR
PROBIOTICS AND PREBIOTICS™

Annual Report

January 1-December 31, 2020

**International Scientific Association
for Probiotics and Prebiotics**



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 2020.

For additional details, see www.isappscience.org

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

Stewardship

- **Australia's probiotic regulatory framework.** The Therapeutic Goods Agency (TGA) in Australia is developing a regulatory framework for probiotics under its jurisdiction. ISAPP is working in consultation with industry to determine if TGA's proposal is scientifically justified.
- **Advocating for improved probiotic quality.** Mary Ellen Sanders continues to serve 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. See this document from 2019: [Improving End-User Trust in the Quality of Commercial Probiotic Products](#).
- **ISAPP consensus definition panels.** Two of the most frequently downloaded papers from *Nature Reviews Gastroenterology & Hepatology* 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 (paper In Press).

Advancing the Science

- **Adequate intake of live dietary microbes.** ISAPP has extended efforts to explore the role of live dietary microbes and health. Underway is an assessment of NHANES data to determine if there is sufficient evidence linking live dietary microbe intake and health in Americans to support an official dietary recommendation. ISAPP is also collaborating with ILSI-North America (ILSI-NA) on a Live Dietary Microbes subcommittee of their Gut Microbiome committee. This subcommittee has funded a [scoping review of published research](#) that might inform on this question. Some members of the ISAPP board also co-authored a [paper that calls for investigation of evidence for links between live dietary microbes and health](#).
- **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.) A paper summarizing the outcomes is under review for *Trends in Food Science and Technology*.
- **Future of probiotics and prebiotics.** As an output from a 2019 discussion group, Marla Cunningham and Glenn Gibson, in conjunction with 14 other academic and industry participants, prepared a paper titled "Shaping the Future of Probiotics and Prebiotics", which is in press with *Trends in Microbiology*.
- **Collaboration with ILSI-NA.** Mary Ellen Sanders represents ISAPP on the ILSI-NA [Gut Microbiome Committee](#). She co-chairs, along with Dr. Bruno Pot, the Live Dietary Microbe subcommittee of this group. Comprising industry, government, non-profit organization and academic experts, the Gut Microbiome Committee addresses translation of gut microbiome research into actionable items related to the food industry.

Education

- **Fermented foods webinar.** ISAPP collaborated with the British Nutrition Foundation on a webinar targeted to a general audience titled, [Fermented food - separating hype from facts](#). Prof. Bob Hutkins spoke on "Understanding fermented foods".

- **New infographics released.** Infographics released in 2020 include [What Qualifies as a Probiotic](#), [Synbiotics](#), [Probiotics and Necrotizing Enterocolitis](#), [Your Guide to New Probiotic Names: Lactobacillus](#) (for consumers) and [The Big Breakup of Lactobacillus](#) (for scientists).
- **Focused communication strategy.** Under the leadership of Kristina Campbell and building on the communication-focused Springboard session of the [2020 virtual annual meeting](#), ISAPP is doing an audit of its scientific communication activities that target different audiences and identifying a particular group to engage with over the coming years.
- **Probiotic and prebiotic mechanisms of action.** ISAPP and ILSI-Europe co-sponsored a popular [webinar](#) titled, *Understanding Prebiotic and Probiotic Mechanisms that Drive Health Benefits*, featuring Prof. Colin Hill, Prof. Sarah Lebeer, Dr. Karen Scott and Dr. Koen Venema.
- **ISAPP symposium at World of Microbiome Conference 2020.** Several ISAPP board members presented a symposium: [“Biotics” for health: what they are and how can we use them in clinical practice?](#) At the World of Microbiome Conference 2020, virtual. November 6, 2020.
- **ISAPP blogs.** ISAPP appreciates that its audiences are interested in viewpoints of top experts in the field. Our Board members and colleagues publish regular blogs and news posts that offer perspectives and important updates about the field. See the [science blog](#), [consumer blog](#), and [news](#).
- **Continuing education course for dietitians.** Mary Ellen Sanders and Bob Hutkins collaborated with registered dietitian and University of Illinois Assistant Professor of Nutrition, Hannah Holscher, to create a comprehensive self-study continuing education course for dietitians on probiotics, prebiotics and fermented foods. Scheduled to be available March 1, 2021, this course will be published by *Today's Dietitian* and will provide 2 credits for dietitians. The course content will be free to access once published.
- **New names for important probiotic *Lactobacillus* species.** ISAPP collaborated with authors of the [landmark paper on Lactobacillus taxonomy](#), including ISAPP board member Prof. Sarah Lebeer, to provide plain language communications for both scientists and consumers/healthcare providers about important name changes for probiotic lactobacilli (see [here](#) for a blog post with links to infographics and a press release).
- **ISAPP's monthly newsletter.** ISAPP publishes a [monthly newsletter](#), keeping over 4500 subscribers current on ISAPP activities and important developments in the probiotic and prebiotic fields. Sign up [here](#).
- **Clinical use of probiotics.** Three current ISAPP board members collaborated on a [paper to provide guidelines](#) for family practice physicians for using probiotics in their practice.
- **Popular media responses.** ISAPP provided responses to popular media when probiotic or prebiotic science was being misrepresented. Here are three examples from 2020: [AGA guidelines](#), [JAMA viewpoint](#), [60 Minutes](#).
- **Social media.** ISAPP is active and engaged on Twitter, and also maintains a Facebook account. This year ISAPP also started an Instagram account, which will share images and information on the science of probiotics and prebiotics, aimed at dietitians and the general public.

Recent Papers from ISAPP Activities

- Salminen, et al. Expert consensus document: The International Scientific Association for Probiotics and Prebiotics (ISAPP) consensus statement on the definition and scope of postbiotics. In Press, *Nature Rev Gastroenterol Hepatol*.

- Cunningham, et al. Shaping the future of probiotics and prebiotics. Trends in Microbiol. In Press.
- Marco, M.L., Sanders, M.E., Gänzle, M. et al. [The International Scientific Association for Probiotics and Prebiotics \(ISAPP\) consensus statement on fermented foods](#). Nat Rev Gastroenterol Hepatol (2021). doi.org/10.1038/s41575-020-00390-5.
- Marco ML, Hill C, Hutkins R, Slavin J, Tancredi DJ, Merenstein D, Sanders ME. 2020. [Dietary recommendation on adequate intake of live microbes: a path forward](#). J Nutr. 150:3061-3067. doi: 10.1093/jn/nxaa323.
- Swanson KS, Gibson GR, Hutkins R, Reimer RA, Reid G, Verbeke K, Scott KP, Holscher HD, Azad MB, Delzenne NM, Sanders ME. 2020. [Expert consensus document: The International Scientific Association for Probiotics and Prebiotics \(ISAPP\) consensus statement on the definition and scope of synbiotics](#). Nat Rev Gastroenterol Hepatol. 17:687–701. doi.org/10.1038/s41575-020-0344-2.
- Binda S, Hill C, Johansen E, Obis D, Pot BD, Sanders ME, Tremblay A, Ouwehand AC. 2020. [Criteria to qualify microorganisms as 'probiotic' in foods and dietary supplements](#). Front. Microbiol. 11:1662. doi: 10.3389/fmicb.2020.01662.
- Spacova I, Dodiya HB, Happel A-U, Strain C, Vandenheuvel D, Wang X and Reid G. 2020. [Future of Probiotics and Prebiotics and the Implications for Early Career Researchers](#). Front. Microbiol. 11:1400. doi: 10.3389/fmicb.2020.01400
- Merenstein DJ, Sanders ME, Tancredi DJ. 2020. [Probiotics as a Tx resource in primary care](#). J Fam Pract. 69(3):E1-E10.
- Tamang JP, Cotter PD, Endo A, Han NS, Kort R, Liu SQ, Mayo B, Westerik N, Hutkins R. 2020. [Fermented foods in a global age: east meets west](#). Compr Rev Food Sci Food Saf. doi:10.1111/1541-4337.12520.

Additional Links

[Full list of ISAPP Publications](#)

[19 years of annual meeting reports](#)

[Industry involvement in ISAPP](#)

BOARD OF DIRECTORS JUNE 2019 – JUNE 2020

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Note in June 2020, Prof. Kelly Swanson, University of Illinois at Urbana-Champaign, Dr. Gabriel Vinderola National University of Litoral, CONICET and Prof. Daniel Tancredi, University of California - Davis were added to the board as members-at-large and Prof. Gregor Reid resigned from the board.



2020 INDUSTRY ADVISORY COMMITTEE MEMBER COMPANIES

Abbott Nutrition	Health and Happiness
ADM Protexin	Kellogg
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Atlantia Food Clinical Trials Ltd.	Lesaffre
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CDRF	Morinaga Milk Industry Co. Ltd. National
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International Scientific Association for Probiotics and Prebiotics

www.isappscience.org

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WHAT PEOPLE ARE SAYING ABOUT ISAPP

ISAPP Industry Member

“ISAPP is the go-to organization for the most up-to-date science on probiotics and prebiotics, as well as emerging concepts like postbiotics and synbiotics. I appreciate how all of ISAPP’s initiatives are grounded in science.”

ISAPP - Student and Fellows Association Member

“ISAPP provides a space to keep up to date with the latest news and discoveries in the fields of probiotics, prebiotics and microbiome science. The annual meeting is a great opportunity for students and early career researchers to present our own work and experience research from like-minded scientists. The meeting also allows for networking opportunities with researchers in each stage of their career.”

ISAPP Board Member

“From discussions with academics, physicians, dietitians, nutritionists, people from the industry and even regulators, it is clear that ISAPP has emerged as a reference institution to provide science-based and independent knowledge on the topics of probiotics, prebiotics and related substances. Importantly, stakeholders trust ISAPP to acknowledge the many limitations and gaps in the science that still exist for ‘biotics’ and fermented foods.”

SUMMARY OF ISAPP 2020 ANNUAL MEETING

[Link to full 2020 meeting report](#)

Due to the COVID-19 disease and its impact on travel and gatherings, ISAPP held its 19th annual meeting virtually. The 2020 meeting was planned to be held the first week of June in Banff, Canada. Instead, the board reworked the program to provide some live sessions June 2nd and 3rd and many recorded talks. Participating in the live events were 115 industry scientists, invited experts and students. For the two live discussion groups, 55 people participated in the group on environmental probiotics and prebiotics, and 87 attended the group on gut microbiota and viral infections. The meeting program included several different types of sessions, including:

- Several webcasted live presentations, including keynote speaker Bonnie Schmidt.
- An interactive “Springboard” session brainstorming ideas about messaging probiotics and prebiotics to scientists, media, the general public, and physicians.
- Recorded planned talks featuring synbiotics, fermented foods, postbiotics, the taxonomy of the *Lactobacillus* genus complex, probiotics and prebiotics for preterm infants, GI conditions, gut microbiota, and as dietary supplements.
- Three industry research talks, and nine student lightning talks.
- Two late breaking news talks.
- Two virtual discussion groups.

Recorded talks and abstracts for the meeting were made available to meeting participants on the ISAPP website under “[2020 Annual Meeting](#)”. ISAPP gratefully acknowledges the support of the 50 [member companies](#), who supported the mission of ISAPP in 2020.