



2007 Annual Report

International Scientific Association for Probiotics and Prebiotics

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Introduction

ISAPP is an international non-profit collaboration of scientists dedicated to advancing the science of probiotics and prebiotics. The mission statement of ISAPP is: To engender and disseminate information on high quality, multidisciplinary, scientific investigation in the fields of probiotics and prebiotics, and to advance the development of scientifically substantiated, health-promoting probiotic and prebiotic products worldwide. ISAPP is the only scientific organization dedicated specifically to probiotics and prebiotics, bringing together scientists from all pertinent disciplines, including food science, microbiology, immunology, biochemistry, nutrition, molecular biology and medicine. As a scientific society, ISAPP strives to have all activities focused on science, not the promotion of any specific commercial products.

For additional details, see website www.isapp.net

Message from the President

This year, we held an open ISAPP in the heart of London England, thanks to the local organizational efforts of Bob Rastall, Glenn Gibson and Pam Webb. We decided on two main themes, covering animal health and developing countries, as neither tend to be the focus of conferences and have not been discussed previously at ISAPP. The application of probiotics and prebiotics to animal health is in its infancy in terms of science, but a number of products are available for this rapidly expanding market. From horses to dogs, cows, pigs and chickens to fish, applications are numerous. The well attended event heard of the challenges in taking probiotics especially to the developing world due to lack of cold storage networks and population poverty, yet there is an enormity of human need for such products.

For the first time, ISAPP was able to actively involve student participants from different countries and their presentations added significantly to the conference. We also had posters for the first time, and this generated further interactions. Comedian Jimy Bright entertained at the dinner and while some jokes went right over the top of people not acquainted with an English accent, overall it was a fun night.

Several ISAPP Board members participated in an international conference in St. Petersburg, Russia, organized in large part by Boris Shenderov. This was a very good event in a magnificent setting. Special credit goes to Dr. Kamiya from Japan who chaired a long session that was all in Russian! Following the conference, several ISAPP members attended the



International Dairy Foundation's Elie Metchnikoff Award celebration in Russia, where ISAPP President Dr. Gregor Reid and his colleague Dr. Andrew Bruce won the award for Nutrition and Health and their work on developing probiotics for urogenital health in women. The competition was fierce with many outstanding scientists nominated.

The year ended with a commitment from ISAPP to continue to expand its activities to countries outside of the mainstream conference locations. In particular, efforts will be made to participate in events in Indo-China, Eastern Europe, Africa and South America. The addition of Natalie Delzenne to the Board was welcomed, and her knowledge of prebiotics would add to the existing expertise. Thanks to Bob Rastall for his term on the Board and for providing support for the 2007 conference. Now that Ian Rowland has moved to join the Reading team, the real fun begins – at least in Reading!

2007 Highlights

- ISAPP report on the status of the field as it pertains to safety evaluation and interpretation of antibiotic resistance phenotypes and genotypes present in probiotics. Report from meeting held December 13, 2007 found at http://www.isapp.net/docs/ACE-ART_ISAPP_meeting_report_jan_30.pdf.
- ISAPP sponsored the 2nd International Workshop on Gut Microbiota in Health and Disease: Potential Role of Probiotics, to be held in Amsterdam, The Netherlands, April 26 – 28, 2007. This meeting brought international experts together to highlight changes in views on beneficial gut microbiota-host crosstalk, probiotics and their role in prevention and alleviation of gastrointestinal, atopic, auto-immune, and functional bowel diseases.
- ISAPP sponsored a symposium titled "Probiotics: Mechanisms of Action, Current Research and Application for Pediatric Disease" at the 2007 Pediatric Academic Societies Meeting (Toronto May 5-8, 2007). Dr. Michael Cabana, University of California San Francisco, chaired the session, featuring the following speakers and topics:
 - Probiotics and the Prevention of Diarrheal and Infectious Diseases, Andi L. Shane, Emory University School of Medicine
 - Probiotics, Eczema and Airway Disease, Dr. Erica Isoulari, University of Turku, Finland
 - Effects of Probiotics on Pathogenic Adhesion to Gastrointestinal Cells, Philip M. Sherman, Hospital for Sick Children, University of Toronto
 - Experience with Probiotics for Necrotizing Enterocolitis and Inflammatory Bowel Disease, Maria M. Oliva-Hemker, Johns Hopkins University School of Medicine
- Over 300 conference participants attended the symposium. Dr. Andi Shane spoke about probiotics and diarrheal diseases. Dr. Erica Isoulari spoke about probiotics and atopic disease. Dr. Sherman discussed probiotic mechanisms in relation to GI tract adherence. Our last speaker, Dr. Maria Olvia-Hemker discussed probiotic uses in gastrointestinal diseases such as IBD and NEC. The question and answer session was lively and entertaining, as the symposium attracted gastroenterologists, infectious disease experts, microbiologists and general pediatricians.
- Symposium abstract: Probiotics are defined as "live microorganisms which when administered in adequate amounts confer a health benefit on the host." These microorganisms are normally found in the human intestine and help stabilize and balance intestinal microflora. Although the term 'probiotic' was not used until the 1960s, the healthy effects of probiotic bacteria have been noted for over a century. Probiotics have been used for the prevention of infectious diarrhea and antibiotic-associated diarrhea. In recent years, there has been increasing interest in the use of

- probiotics for the treatment inflammatory bowel disease, necrotizing enterocolitis and extra-intestinal disorders including atopic dermatitis and recurrent urinary tract infections. As more applications of probiotic therapy are considered for pediatric practice, it is important to understand the underlying mechanisms, limitations and safety issues with this increasingly popular therapy. This symposium will summarize current knowledge regarding the mechanism of the beneficial effects of probiotics, current uses of different strains of probiotics in children and future trends and areas of research for disease prevention and treatment.
- ISAPP sponsored a symposium at the 107th General Meeting of the American Society of Microbiology in Toronto in 2007. Board member, Todd Klaenhammer, and former Board member, David Mills, gained approval to convene a session titled "Genomics of probiotic lactic acid bacteria". Speakers and topics that were covered:
 - Eugene Koonin, National Center for Biotechnology Information, speaking on "Comparative genomics of lactic acid bacteria"
 - James Steele, University of Wisconsin , speaking on "Genomic analysis of Lactobacillus casei"
 - James Versalovic, Texas Children's Hospital, speaking on "Genomic Variation within the Probiotic Species Lactobacillus reuteri"
 - Paul W. O'Toole, University College Cork, speaking on "Comparative genomics of Lactobacillus species"
 - David Mills, University of California – Davis , speaking on "Genomic and glycomic analysis of bifidobacterial enrichment in infants by human milk oligosaccharides"
 - Symposium abstract: The lactic acid bacteria are a group of Gram positive bacteria that occupy a variety of specialized habitats, but possess similar morphological, metabolic and physiological characteristics. They play an essential role in food and beverage fermentations, and selected groups are also known for their probiotic properties. This symposium will focus on the recent appearance of completed genomes across the LAB and, selected bifidobacteria. The result of a large comparative genomic analysis will be featured that describes their evolutionary path toward specialized ecological niches. This will be followed by individual reports on selected genomes of probiotic species that are providing important insights into the physiological, metabolic, and probiotic capabilities of these beneficial microorganisms.
 - ISAPP collaborated with Dr. Stanislav Sitkin to develop a program on "Probiotics, Prebiotics, Synbiotics and Functional Foods: Scientific and Clinical Aspects" held in St. Petersburg, Russia May 15–16, 2007.
 - ISAPP sponsored the Second International Symposium on Lactic Acid Bacteria in Tucuman, Argentina



October, 2007 Board of Directors

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