International Society of Microbiota

TARGETING MICROBIOTA

Towards Clinical Revolution

10TH WORLD CONGRESS

OCT. 17>19 — 2023 —

VENICE ITALY

Abstracts BOOK

International Society of Microbiota

10th ISM World Congress on

Targeting Microbiota

October 17-19, 2023 – Venice, Italy

Peter Konturek

President of International Society of Microbiota

Marvin Edeas

Founder and Chairman of ISM Scientific Commitee

The global abstract book is referenced as 10th ISM World Congress.

Welcome to the 10th ISM World Congress

Dear Colleagues,

It is a great pleasure to welcome you to the 10th Annual World Meeting on Targeting Microbiota which will be held on October 17-19, 2023 in Venice, Italy and online.

We wish that the 10th World Congress on Targeting Microbiota will be at least as exciting and as successful as our previous meetings.

What to expect at Targeting Microbiota 2023?

Targeting Microbiota 2023 will be a comprehensive gathering of experts shedding light on the multifaceted roles of microbiota. From health and disease to environmental impacts and cutting-edge technology, Targeting Microbiota 2023 will capture the essence of current microbiota research trends and its implications for the future.

This year a strategic discussion will be held after each group of talk to allow better exchange of ideas and promising insights in the microbiota field.

Our topics, speakers and discussions will encompass recent breakthroughs, challenges, and future prospects in understanding the role of microbiota in health and disease. Furthermore, we will explore the potential implications of microbiota modulation on the landscape of medicine and pinpoint the areas of focus.

We believe that this would be the best future strategy in 2023: a strong communication between basic, pre-clinical scientists and clinicians. We will have a strategic discussion about the future of microbiotal medicine and how to overcome all barriers.

We would like to thank all speakers and chairpersons of Targeting Microbiota 2023 for their contribution. Their breadth of knowledge and expertise has helped make this conference as extraordinary as it is:

Souhaila Al Khodor, *Sidra Medicine , Qatar*

Valentina Caputi, *University of Arkansas, USA*

Francis K L Chan, *The Chinese University of Hong Kong, China*

Matthew Chang, *National University of Singapore, Singapore*

Barbara Di Camillo, *University of Padova, Italy*

Vincenzo Di Pilato, *University of Genoa, Italy*

Markus Egert, *Furtwangen University, Germany*

Andrew Y. Koh, *University of Texas Southwestern Medical Center, USA*

Ramakrishna Kommagani, *Baylor College of Medicine, USA*

Cammie F. Lesser, *Massachusetts General Hospital, USA*

Joshua Lyte, *USDA-ARS Poultry Production and Product Safety Research Unit, USA*

Maria Elena Martino, *University of Padova, Italy*

Birgitte Moen, *Nofima, Norway*

Lena Öhman, *University of Gothenburg, Sweden*

Roberta Raffaetà, *Università Ca' Foscari Venezia, Italy*

Karl-Herbert Schäfer, *Kaiserlautern University of Applied Sciences, Germany*

Andreas Schwiertz, *Institute of Microecology, Germany*

Michael A. Silverman, *University of Pennsylvania, USA*

Pamela Tozzo, *University of Padova, Italy*

We also wish to thank the following Universities for their support: **The University of Padova** and **Ca' Foscari University of Venice.**

We hope that you will enjoy the Targeting Microbiota 2023 Congress and that you will capture moments of conviviality and scientific inspiration by the many and best scientists we have in the world studying the various aspects of the microbiota.

All our warmest regards,

Prof. Peter Konturek

Teaching Hospital of the University of Jena, Germany
President of the International Society of Microbiota

Prof. Maria Cecilia Giron

University of Padova, Italy
Local Organizer of Targeting Microbiota 2023

Practical Information

We would like to take the opportunity to give you some additional information about the meeting arrangements.

The Abstract book contains:
• Speakers' abstracts (the abstracts of the oral presentations follow the order of the program)
• The abstracts of posters on display

Badges

Upon registration you have received your own personal badge. Please wear this badge during the entire meeting including the coffee breaks and lunch.
The conference secretariat will be located in the area in front of the conference hall.

Instructions for participants

Chairpersons: The Chairpersons will be seated at the president's table.

Speakers: Speakers are invited to give their Power Point presentations for downloading on the computer to the technical team outside and not inside the conference hall. As the schedule is rather tight and to allow sufficient time for discussions, we would be very much obliged if the timing requirements were respected.

Poster Contributors: Please ensure that your poster is displayed at the appropriate location, please respect your poster number. Please remember to remove your posters at the end of the conference. The Poster contributors are invited to stand by their poster during the poster sessions.

Speakers Dinner
A dinner is organized on October 18 at Robe da Matti Restaurant on the island of San Servolo.
If you registered for this dinner, please join the group at 20h00 at the restaurant.

Mobile Phones
As a courtesy to the speakers and other delegates, please turn off your mobile phones or to silent whilst in the conference room. Please do not take pictures of the slides without the consent of the presenting author.

Questions
Please state your name and institution or company before asking your question.

Conference Staff
Staff at the conference registration desk will be happy to deal with any queries you may have. If we receive any messages for you, they will be announced at the break in the session and can be collected from the desk.

Personal Belongings
Please keep your valuables and working materials with you at all times. We would advise you to keep your name on the conference notes, as we may not be able to replace these if lost. Isola di San Servolo - Centro Soggiorno can't be held responsible for any loss or damage to your property.

10th ISM World Congress on Targeting Microbiota

October 17-19, 2023
Venice, Italy

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10th ISM World Congress on

Targeting Microbiota

Abstracts for Day 1

October 18, 2023

International Society of Microbiota

NANOMATERIALS-BASED STRATEGY FOR MYELOID CELLS ACTIVATION RESULTS IN EXPERIMENTAL AUTOIMMUNE ENCEPHALOMYELITIS AMELIORATION AND GUT MICROBIOTA MODULATION

RADOJEVIC, Dusan [1]; BEKIC, Marina [2]; ILIC, Natasa [2]; DJOKIC, Jelena [1]; STOJANOVIC, Dusica [3]; VASILEV, Sasa [2]; GRUDEN-MOVSESIJAN, Alisa [2]; TOMIC, Sergej [2]

1: Institute of Molecular Genetics and Genetic Engineering, University of Belgrade, Serbia;

2: Institute for the Application of Nuclear Energy, University of Belgrade, Belgrade, Serbia;

3: Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

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Introduction: Recent studies implicated overactivated myeloid cells and gut microbiome, along with our work, in multiple sclerosis (MS) pathogenesis. As we have shown before, prostaglandin (PG)E2 promotes suppressive properties of myeloid cells leading to amelioration of symptoms in myelin oligodendrocyte glycoprotein (MOG)-induced experimental autoimmune encephalomyelitis (EAE). Additionally, we investigated how the changes of gut microbiota associate with EAE and the effects of therapy.

Materials & Methods: MOG35-55 in Complete Freund Adjuvans was used for EAE induction in C57BL/6 mice. Gold nanoparticles (GNP) conjugated with PGE2 and MOG were applied on the day 1, 3, 5, 7, and 9 post-immunization. We performed extensive immunophenotyping and metagenomic analysis in order to decipher association between gut microbiome and efficacy of GNP-MOG-PGE2 treatment.

Results: GNP-MOG-PGE2 treatment alleviates EAE symptoms, decreased levels of pro-inflammatory cytokines in sera, and increased proportion of suppressive MDSCs in CNS-infiltrates. Furthermore, EAE induction significantly affected species richness, while GNP-MOG-PGE2 treatment increased the gut microbiota diversity and preserved the richness of species with immunomodulatory properties.

Conclusion: Taken together, our data indicate that targeted activation of myeloid cells by GNP-MOG-PGE2 together with gut microbiota modification is very promising therapeutic strategy for MS.

Supported by Science Fund of the Republic of Serbia, PROMIS project Nano-MDSC-Thera #6062673

Reference:
https://doi.org/10.1080/19490976.2022.2127455

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International Society of Microbiota

Under the local organization of

Università degli Studi di Padova

With the patronage of

Università Ca'Foscari Venezia

ISM Speakers 2023

COVID 19 and Microbiota - A Story with a Long Tail
Peter C. Konturek, President of ISM from Teaching Hospital of the University of Jena, Germany

Microbiota & Myelinazation: The Latest Findings
Maria Cecilia Giron, University of Padova, Italy

Domestic Cleaning and Human Microbiome - Is There a Link?
Markus Egert, Furtwangen University, Germany

Mapping the Kitchen Microbiota in Five European Countries
Birgitte Moen, Nofima, Norway

Environmental Drivers of Avian Enteric Neuroendocrine Plasticity in the Context of Foodborne Pathogen Carriage
Joshua Lyte, United States Department of Agriculture, Agricultural Research Service, USA

Skin Microbial Changes during Space Flights
Pamela Tozzo, University of Padova, Italy

Gut Microbiota and Cancer Immunotherapy
Andrew Y. Koh, University of Texas Southwestern Medical Center, USA

Computational Modeling Microbial Community Networks: Pros and Con
Barbara Di Camillo, University of Padova, Italy

Gut microbiota and prebiotics in Parkinson's disease: The RESISTA-PD Trial
Andreas Schwiertz, Institute of Microecology, Germany

Microbiome Engineering: Reprograming microbes to rewire host-microbiome interactions
Matthew Chang, National University of Singapore, Singapore

Multi-omics in Colon Cancer and Role of the Microbiome
Souhaila Al Khodor, Sidra Medicine, Qatar

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Marvin Edeas, Founder & Chairman of ISM Committee, Institut Cochin, INSERM, Université de Paris, France

Engineered Escherichia Coli for the in Situ Secretion of Therapeutic Nanobodies in the Gut
Cammie Lesser, Harvard Medical School , USA

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Karl-Herbert Schäfer, Kaiserlautern University of Applied Sciences, Germany

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Roberta Raffaetà, Università Ca' Foscari Venezia, Italy

Gut Microbiota & Microbiota-Derived Metabolites Role in Endometriosis
Ramakrishna Kommagani, Baylor College of Medicine, USA

Fecal Gut Microbiota and Metabolite Signatures as Biomarkers for Gastrointestinal Disorders
Lena Öhman, University of Gothenburg, Sweden

Arresting microbiome development limits immune system maturation and resistance to infection in mice
Michael Silverman, University of Pennsylvania, USA

Microbiota, Enteric Nervous and Immune Systems: Barrier Defenses against Foodborne Pathogens Carriage in Poultry
Valentina Caputi, United States Department of Agriculture, Agricultural Research Service, USA

Evaluation of Transitional Changes Shaping the Infants' Gut Microbiota in Early Life: The CI.EMME Study
Vincenzo Di Pilato, University of Genoa, Italy

Clinical Applications of Gut Microbiota: Gut Microbiome for Prediction of Colorectal Neoplasia
Francis K L Chan, The Chinese University of Hong Kong, China

Effect of Gut Microbiota Regulation on Non-Alcoholic Fatty Liver Disease
Yu Chen, The 7th Affiliated Hospital of Southern Medical University, China

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