



Society for Microbial Ecology and Disease

Executive Board: **President:** *Gianfranco Donelli*; **President-elect:** *Marika Mikelsaar*; **Secretary:** *Shigeru Kamiya*; **Treasurer:** *Eugenia Bezirtzoglou*; **Councillors:** *Diane Citron, Francesca Clementi, Andrew B. Onderdonk, Arthur C. Ouwehand, Boris Shenderov, Michael Wilson*

SOMED NEWSLETTER

SUMMER / FALL

2009

PRESIDENT'S MESSAGE

Dear members, colleagues and friends,

I'm pleased to update you about our new initiative aimed to the establishment of SOMED Panels of experts on different crucial aspects of probiotic products for human use. A number of scientists, highly qualified in the field, have replied to our call and were appointed as members of:

Panel 1. Monospecies and multispecies probiotic products: where is the efficacy?

Member Name	Institution/Company	Country
Andrew Onderdonk	Brigham & Womens' Hospital - Boston	USA
Marika Mikelsaar	University of Tartu	ESTONIA
Veronica Lazar	University of Bucarest	ROMANIA
Franco Dellaglio	University of Verona	ITALY

Coordinator: Marika Mikelsaar

Panel 2. Minimal microbial dose able to exert clinical effects: appropriate dosing regimens.

Member Name	Institution/Company	Country
Elisa Bertazzoni Minelli	University of Verona	ITALY
Yolanda Sanz	University of Valencia	SPAIN
Jacques Nicoli	Universidade de Belo Horizonte	BRASIL
Tore Midtvedt	Karolinska Institutet	SWEDEN

Coordinator: Yolanda Sanz

The planned **Panel 3**, "Health risks associated with probiotic treatments", will be activated through the appointment of appropriate experts only when the first two panels will produce their consensus papers.

The two coordinators of Panels 1 and 2 are hardy working to elaborate drafts of the consensus papers assigned that will be discussed and approved in a meeting that will be properly organized in Rome at the end of February 2010.

Unfortunately, I was recently informed by the Publisher of our official journal MEHD that, due to the current financial climate, the closing of the Journal has been decided with the final 2009 issue.

I timely informed all the SOMED Councillors about this critical issue and I would like to ask all members for comments, suggestions and proposals.

During Summer and Fall months, two congresses of interest for our Society were organized.

From September 2 to 5 2009, Rome has been the venue of the First European Congress on Microbial Biofilms - EUROBIOFILMS 2009, chaired and organised by myself.

It has been a valuable forum for a multidisciplinary scientific exchange in the field of microbial biofilms attended by 408 participants coming from 43 different countries.

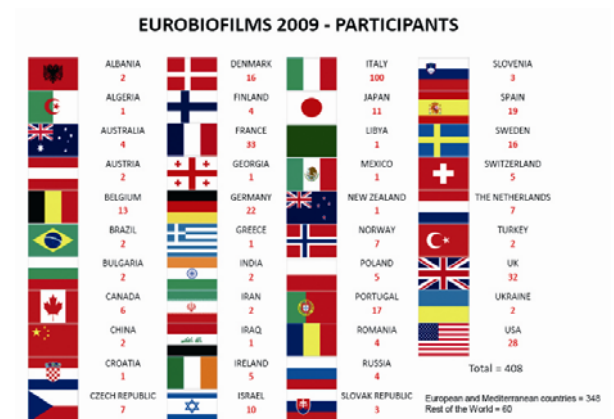


Chart summarizing the distribution of congress registrants by country.

The congress has joined together microbiologists and specialists in infectious diseases, hygiene and public health involved in investigating different aspects of bacterial and fungal biofilms as well as in designing innovative responses in terms of prevention and treatment.



The 500-seats Auditorium of the Congress venue at the “Fondazione Santa Lucia” Research Hospital in Rome.



Phil Stewart, Director of the Center for Biofilm Engineering, Montana State University, USA, during his lecture.

ESCMID and FEMS grants have provided financial support for numerous young scientists, while SOMED has offered two awards of 500 Euro each for the 2 best Posters. The winners of the two SOMED prizes were: Olga Petrova, from Binghamton University (USA), who presented the poster titled “Coordinated signaling events regulate transition from initial attachment to maturation during *Pseudomonas aeruginosa* biofilm formation”; and Maria Dolores Macia, from the Hospital Son Dureta of Palma de Mallorca (Spain) who presented the poster titled “Effect of alginate hyperproduction and colistin treatment on the structure and evolution of *Pseudomonas aeruginosa* biofilms”.



The two SOMED prize winners, Olga Petrova (left) and Maria Dolores Macia (center), while receiving the Award Certificate by the SOMED President.

The XXXII SOMED Congress, held in St. Petersburg, October 29 – 30, 2009, has been very well organized and largely attended thanks to the efforts of our Russian colleagues, particularly Eugeny Tkachenko (President), Boris Shenderov (Co-President and Chairman of Congress Scientific Committee) and Vyacheslav Melnikov, Senior Project Manager of the International Science and Technology Center. A detailed report on the main figures of this meeting is expected to be published in the next issue of the SOMED Newsletter.

Also in this occasion, SOMED offered 3 Awards of 500 Euro each for the 3 best Poster.

The winning posters, selected on the basis of the most voted posters by congress participants, were 4 since the 3rd and 4th obtained the same number of votes and thus shared the 500 Euro Award.

1st Award (Euro 500)

***Lactobacillus* spp. isolation in salmon farms from the South of Chile**

Castro E., Cofré J., Gutiérrez P., Bórquez R., Laboratorio de Bacterias Lácticas, Universidad de Concepción, Departamento de Ingeniería Química, Universidad de Concepción, Concepción, Chile



2nd Award (Euro 500)

Antigenotoxic Properties of Probiotics

Raipulis J., Pokrotnieks J., Vecele I, Toma M.M., Institute of Microbiology and Biotechnology, University of Latvia, Riga Stradins University, Riga, Latvia

3rd Award (Euro 250 + 250)

Hemolytic activity of probiotic strains of human origin

Cunha L.R., Silva Chaves K., Luces Ferreira C.L., Department of Food Technology, Federal University of Viçosa, Viçosa, Brasil

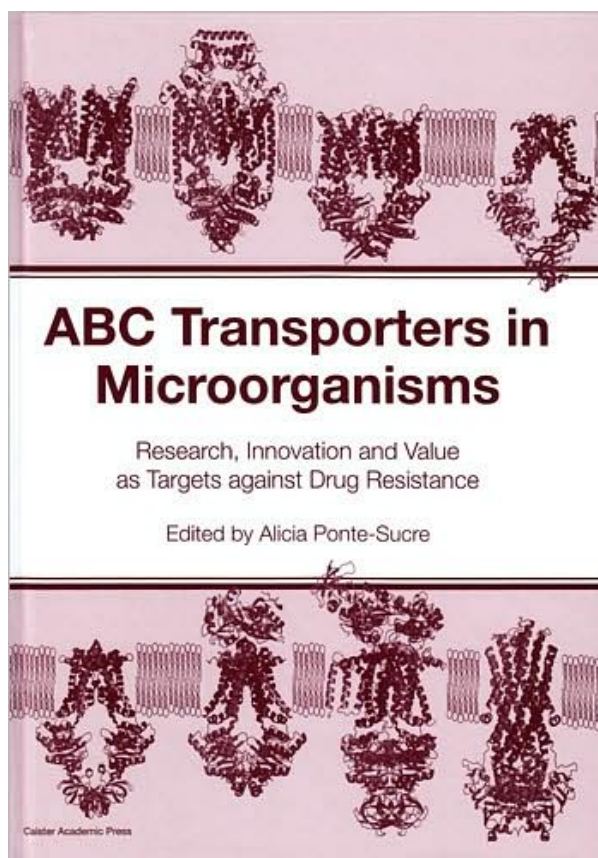
and

Sources of variation in intestinal metaproteomics

Kolmeder C., Nikkilä J., Salonen A., Palva A., M. de Vos W., Department of Basic Veterinary Sciences, Division of Microbiology and Epidemiology, University of Helsinki, Finland and Laboratory of Microbiology, Wageningen University, Wageningen, The Netherlands

Information on the XXXIII SOMED Cruise – Congress in the Greece islands, organized on September 2010 by Professor Eugenia Bezirozoglou, will be available soon on the Society website: www.somed.nu

Gianfranco Donelli
SOMED President



**ABC Transporters in Microorganisms
Research, Innovation and Value as Targets
against Drug Resistance**

Editor: Alicia Ponte-Sucre, of the Universidad Central de Venezuela, Caracas, Venezuela

Publication date: August 2009

Price: £ 150 or \$310

Extent: xii + 260

Format: 248 x 174 mm

ISBN: 978-1-904455-49-3

Description

A skillful selection of topics and a panel of acknowledged experts as authors ensure that this concise volume will be of exceptional importance to everyone involved in DNA superfamily research as well as scientists interested in microbial physiology and multidrug resistance.

This concise volume describes the latest, up-to-date theory, methodology and applications of ABC transporters in microorganisms. The topics include the structure, physiology and evolution of ABC transporters, as well as their special characteristics in specific microorganisms including bacteria, yeast, trypanosomes and malaria parasites. In particular the book describes the most recent research and innovations relative to the role of ABC transporters in the design of strategies to circumvent drug resistance in microorganisms. Each chapter comprises an exhaustive review of the particular topic and provides insights into the future of the field both from the scientific and clinical perspective.

Essential reading for anyone involved in this field and a recommended volume for all microbiology laboratories.

Table of Contents

Chapter 1: ABC Transporters: A Smart Example of Molecular Machineries
Thorsten Jumpertz, I. Barry Holland and Lutz Schmitt

Chapter 2: Evolution and Function of the Multidrug Resistance-linked ABC Transporters in Bacteria and Cancer Cells
Zuben E. Sauna and Suresh V. Ambudkar

Chapter 3: Structure-function Relationships in ABC Multidrug Transporters
Daniel A. P. Gutmann and Hendrik W. van Veen

Chapter 4: Can ABC Proteins Confer Drug Resistance in Microorganisms without Being Export Pumps?
James M. Dorrian and Ian D. Kerr

Chapter 5: ABC-type Multidrug Resistance Transporters and their Role in Survival of Bacteria
Patrick J. Bakkes, H. Bart van den Berg van Saparoea and Arnold J.M. Driessen

Chapter 6: ABC Transporters in *Plasmodium falciparum* and their Involvement in Resistance to Antimalarial Drugs
Bruno Pradines, Véronique Parquet and Eve Orlandi-Pradines

Chapter 7: Cellular Functions of ABC Proteins in Trypanosomatidae
Philippe Leprohon, Danielle Légaré and Marc Ouellette

Chapter 8: ATP-binding Cassette (ABC) Transporters in Yeasts, their Role in Multidrug Resistance and Survival
Hina Sanwal, Sneh Lata Panwar and Rajendra Prasad

Chapter 9: ABC Transporter Blockers and Reversal of Drug Resistance in Microorganisms
Alicia Ponte-Sucre, Maritza Padrón-Nieves, Emilia Díaz

Chapter 10: ABC Transporters as Target for RNA Interference-mediated Reversal of Multidrug Resistance: Implications in Microorganisms
Hermann Lage

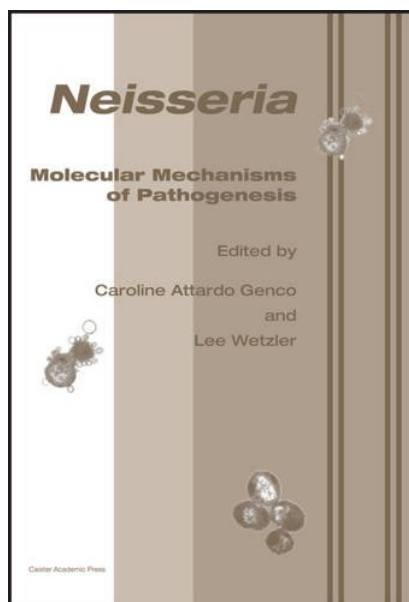
Review

"This book represents an interdisciplinary review of the role of ABC transporters in microorganisms, combining data from structural biology, biochemistry, clinical research and pharmacology ... a comprehensive review with a general outline given in each chapter that is essential and useful not only for readers interested in the fascinating ABC transporter family."

from Britta Kunert, Webcritics (2009)

For More Information, Go to:

<http://www.horizonpress.com/abc-transporters>



Publisher: Caister Academic Press
Edited by: Caroline Genco and Lee Wetzler *Boston University School of Medicine, Boston MA 02118, USA*
Publication date: January 2010
ISBN: 978-1-904455-51-6
Price: GB £150 or US \$310 (hardback).
Pages: x + 270 (plus colour plates)

Neisseria gonorrhoeae and *Neisseria meningitidis* are Gram-negative diplococci. *N. gonorrhoeae* is the causative agent of gonorrhoea and is transmitted via sexual contact. *N. meningitidis* is transmitted via respiratory droplets leading to colonization of the nasopharynx and can cause meningitis and septicemia.

This important reference volume provides research scientists, advanced students, clinicians, and other professionals with a comprehensive update on the current understanding of the molecular mechanisms of pathogenesis in *Neisseria*. The editors have assembled a team of highly regarded scientists, over 40 contributors, to describe the latest, up-to-date research, theory and clinical significance of molecular mechanisms in meningococcal disease. Leading authorities have contributed chapters on topics such as gene expression, genomics, biofilms, denitrification, adhesion strategies and mechanisms of cellular invasion. A section on the host response to neisserial infection covers innate immunity, complement, apoptosis, and acquired immunity while a section devoted to clinical correlation deals with vaccine development, epidemiology and antibiotic resistance.

The volume is highly recommended for microbiologists, epidemiologists and clinicians involved with *Neisseria* research or meningococcal disease and is a recommended text for all microbiology libraries.

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Section 1: Genetic Mechanisms

Chapter 1 Gene Expression Strategies of the Pathogenic *Neisseria*
 J.R. Mellin and Stuart Hill

Chapter 2 Regulation and Function of the Neisserial Denitrification Pathway: Life with Limited Oxygen
 Virginia L. Clark, Vincent M. Isabella, Kenneth Barth and Tim W. Overton

Chapter 3 Genomics and Recombination
 John K. Davies

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Chapter 4 Gonococcal Biofilms
 Michael Apicella, Megan L. Falsetta, Ryan Neil and Christopher Steichen

Chapter 5 Newly Described Surface Structures and Adhesion Strategies of the Pathogenic *Neisseria*
 Rosanna Leuzzi, Laura Serino, Davide Serruto and Mariagrazia Pizza

Chapter 6 Mechanisms of Cellular Invasion of *Neisseria meningitidis*
 Etienne Carbonnelle, Xavier Nassif and Sandrine Bourdoulous

Section 3: Host Response

Chapter 7 Innate Immune Recognition of *Neisseria meningitidis* and *Neisseria gonorrhoeae*
 Daniel C. Stein, Julia B. Patrone and Samuel Bish

Chapter 8 Interactions of *Neisseria* with Complement
 Lisa A. Lewis, E. Burrowes, Peter A Rice and Sanjay Ram

Chapter 9 Consequences of Pathogenic *Neisseria* Infection on Cellular Apoptosis
 Sarah A. Follows and Paola Massari

Chapter 10 Role of Acquired Immunity in *Neisseria* Infections
 Manish Sadarangani, Matthew D. Snape, Dominic F. Kelly, Gunnstein Norheim, J. Claire Hoe, Susan Lewis, Lee Wetzler and Andrew J. Pollard

Section 4: Clinical Correlations

Chapter 11 Difficulty in Developing a Neisserial Vaccine
 Kate L. Seib and Rino Rappuoli

Chapter 12 Epidemiology in the Vaccine Era
 Caroline Trotter, Gwenda Hughes and Cathy Ison

Chapter 13 Molecular Mechanisms of Antibiotic Resistance Expressed by the Pathogenic *Neisseria*
 William M. Shafer, Jason P. Folster and Robert A. Nicholas

Review

“This book represents a comprehensive update on the current understanding of the molecular mechanisms of pathogenesis both in *Neisseria meningitidis* and *Neisseria gonorrhoeae*.

The understanding of the gene expression strategies of pathogenic *Neisseria* is still limited but the recently published genome sequences of both the above mentioned species will provide invaluable insights into the basis of pathogenesis as well as on the study of new therapeutic interventions and preventive tools.

Mechanisms of adhesion, cellular invasion, interference with the apoptotic cellular machinery and of antibiotic resistance are illustrated such as the role of the innate and acquired immunity in *Neisseria* infections. A comprehensive chapter is dedicated to the epidemiology of the diseases caused by the two species. Further, the most recent approaches for a future prevention these diseases by a universal neisserial vaccine are commented.”

by Paola Mastrantonio

Department of Infectious, Parasitic and Immune-mediated Diseases, Istituto Superiore di Sanità, Rome, Italy

UPCOMING EVENTS

3rd International Symposium on Propionibacteria and Bifidobacteria:

Dairy and Probiotic Applications

JUNE 1 – 4, 2010

OVIEDO, SPAIN – AUDITORIUM PRÍNCIPE FELIPE

The 3rd International Symposium on *Propionibacteria and Bifidobacteria: Dairy and Probiotic Applications* will be held in Oviedo, Spain, on June 1st-4th 2010. This event aims at offering a unique opportunity for scientists, students and industry to analyse and discuss the most recent international breakthrough developments in propionibacteria and bifidobacteria, considering the important role of these microorganisms in dairy applications and human health.

The Symposium is structured in five scientific sessions:

1. Physiology and metabolism
2. Technological and industrial applications
3. Health effects: clinical data
4. Health effects: mechanisms
5. Omics

Contributions are invited for poster presentations on the topics mentioned above and others falling within the scope of the Symposium.

You can register and send your poster abstract now at www.propiobifido2010.com. Some posters will be invited for oral presentation in short lectures or “flash” poster presentations. Selection of posters will be carried out by the Scientific Committee on the basis of quality of the abstract and special interest.

Speakers of plenary and short lectures will have the opportunity to publish their work in a special issue of *International Journal of Food Microbiology*. Papers will be subjected to the usual peer review procedure of the journal.

All summaries of posters and conferences will be published in the Proceedings of the Symposium.

Poster abstracts submission deadline: January 31, 2010

Early registration and Students presenting poster

Deadline for payment: April 15, 2010

Organising Committee

E-mail: propiobifido2010@ipla.csic.es

Website: www.propiobifido2010.com



15th - 17th June 2010, University city of **Kosice, Slovakia**

The International Probiotic Conference 2010 will be held on **15th - 17th June 2010**, in the university city of **Kosice, Slovakia**.

IPC 2010 is the oncoming event of the successful conference series focusing solely probiotics in 2000, 2004, and 2008. The scientific programme will focus on current advances in the research, production and use of probiotics and prebiotics with particular focus on their role in maintaining health and preventing diseases.

Researchers and expert scientists from research institutes and industry will present their recent findings and visions about the research, development, production, application and use of probiotics and prebiotics within the following subject areas:

- Models to Study Intestinal Interactions
- Microbiome of the GIT
- Modulation of the Intestinal Micro-flora
- Biomarkers of Probiotic Efficacy
- Mucosal Health and Integrity
- Diarrhoe Prevention
- Pediatric Nutrition
- Stimulation of the Intestinal Immune System
- Non-mucosal Interaction with the Immune System and Allergy
- Inflammatory Bowel Disease and Crohn's Disease
- Urogenital Applications
- Zoo-technical Benefits
- Mechanisms of Action
- Genetics, Functional Genomics, Metabolomics of Probiotics
- Non-LAB Probiotics - yeasts, bacilli
- Recombinant Probiotics
- Taxonomy - current issues
- Delivery Vehicles
- Quality Assurance and Stability
- Prebiotics
- Synbiotics
- Novel Strains and Approaches
- Identification, Characterisation of Strains
- Clinical Trials and Health Claim Substantiation
- Adverse Effects, Safety
- Regulatory Issues and Barriers
- Future of Probiotics and Prebiotics – Visions and Opportunities

For further information visit: www.probiotic-conference.net

Organizing Secretariat

PAMIDA International spol. s.r.o.
Komenského 2656
024 01 Kysucké Nové Mesto
Slovak Republic

phone: +421 918 707371

fax: +421 41 4000123

e-mail: info@probiotic-conference.net



SOMED Newsletter is an electronic, periodic publication of the Society of Microbial Ecology and Disease, open to contributions from members and colleagues on the Society's related matters.

Information on future meetings, courses, books and other publications as well as short commentaries on hot topics in the field of microbial ecology will be welcomed in order to be included in the next issues of the SOMED Newsletter.

Contributions can be e-mailed to the SOMED President (gianfranco.donelli@iss.it) and/or to the SOMED Secretary (skamiya@kyorin-u.ac.jp).

Contributors to this issue: Gianfranco Donelli, SOMED President; Paola Mastrantonio, Department of Infectious, Parasitic and Immune-mediated Diseases, Istituto Superiore di Sanità, Rome, Italy; Annette Griffin, on behalf of Caister Academic Press and Horizon Scientific Press; Yolanda Sanz, University of Valencia and Spanish National Research Council; Valencia, Spain; Norbert Bomba, Project Manager, IPC 2010, Slovakia.

Editing and layout: Emilio Guaglianone