WITH THE PATRONAGE OF











STATE OF THE ART IN THE ERA OF MICROBIOME STUDY: CURRENT APPROACH AND FUTURE PERSPECTIVES



AC Hotel Torino Via Bisalta 11 Turin, Italy

BACKGROUND

The microbiome is the term for the collection of microbes living symbiotically on and within the human body. Advances in next-generation sequencing and computational biology have revolutionized our ability to explore the diversity, composition, and functionality of the microbiome, shedding light on its profound influence on health and disease. From gastrointestinal and metabolic disorders to neurological and autoimmune conditions, the microbiome is increasingly recognized as a key mediator of human physiology and a potential therapeutic target.

Future directions include the integration of multi-omics data to develop systemslevel understanding, the refinement of diagnostic biomarkers, and the standardization of therapeutic approaches. Ethical considerations, including equitable access and the ecological implications of microbiome interventions, will also play a crucial role in shaping the future of microbiome science. Our course, organized by ESGHAMI (ESCMID study group for host and and microbiota interactions) in collaboration with ESGNTA (ESCMID study group for non-traditional antibacterial therapy), covers several important topics in microbiome research, articulating the challenges of the field and considering the latest research trends and future perspective.

AIM

This course will provide plentiful opportunities for participants to learn about and to connect to important developments in studying the human microbioma.

LEARNING OBJECTIVES

- Understand current knowledge on microbiome studies
- Apply microbiome research in clinical settings
- Evaluate the role of new techniques targeting the microbiome and their future development
- How to develop a hospital Center for Microbiome Analysis and Therapeutics
- Probiotics & prebiotics
- Future applications of Phage therapy
- FMT to treat and prevent infectious diseases
- MDRO colonization and infections
- · Gut microbiome signature for precision medicine
- · Virome, mycobiome and one health approach

REGISTRATION FEES

ESCMID Members: € 400

Non-ESCMID Members: € 600

ESCMID Young Scientist Members (< 35 yrs) - limited tickets: € 300

ESCMID LMIC Members - limited tickets: € 200

Registration fees include full access to the course. Accomodation not included.

HOW TO REGISTER

You can register for the course suing the following link: <u>https://www.escmid.org/event-detail/state-of-the-art-in-the-era-of-microbiome-</u> <u>study-current-approach-and-future-perspectives/</u>

ECM ITALIAN CREDITS

The course will obtain 10 ECM credits for the following professions: **Medical Doctors** (Allergology and Clinical Immunology; Clinical Biochemistry; Clinical Pathology; Dermatology; Endocrinology; Gastroenterology; Diabetology; Gynecology; Infectious Diseases; Internal Medicine; Microbiology and Virology; Neonatology; Oncology; Pediatrics; Pharmacology and Toxicology; Pneumology; Rheumatology), **Chemists**,

Dietologists, Hospital Pharmacists, Veterinarians.

ECM credits will be assigned to all those who have attended for a minimum of 90% of the educational hours.

Italian participants will need to sign in every day, at the entrance and at the exit for ECM credits and must remember to hand in the personal information sheet, the evaluation form and the written test at the end of the meeting at the registration desk.

INTERNATIONAL CME ACCREDITATION

An application will be submitted to the European Accreditation Council for Continuing Medical Education (EACCME®).

INTENDED AUDIENCE FOR INTERNATIONAL CME ACCREDITATION

Infectious Diseases, Internal Medicine, Clinical Microbiologist, Bioinformatics, Molecular Biologists. Specialists, Residents and Fellows are welcome, PhD students with a focus on microbiome are also welcome.

ECM ITALIAN PROVIDER AND ORGANIZING SECRETARIAT

health data consulting

HealthData Consulting S.r.l. via Morghen 27, 10143 Torino Tel. +39 011 0267950 - Mail segreteria@hdcons.it

COURSE DIRECTORS

Silvia Corcione, Department of Medical Sciences, University of Turin, AOU Città della Salute e della Scienza di Torino; Tufts Medical Center, USA.

Nicolas Benech, French Fecal Transplant Group, France; Hospices civils de Lyon, Service d'Hépato-Gastroentérologie, F-69003, Lyon, France; Claude Bernard Lyon 1 University, CRCL, Lyon, France; Lyon GEM Groupe d'étude du microbiote, Lyon, France.

Ed J. Kuijper, Center for Microbiota Analysis and Therapeutics, Leiden University Center of Infectious Diseases (LUCID), at LUMC, Leiden, The Netherlands.

FACULTY MEMBERS

Francesco Asnicar, Department of Cellular, Computational and Integrative Biology, University of Trento, Italy.

Nicolas Benech, French Fecal Transplant Group, France; Hospices civils de Lyon, Service d'Hépato-Gastroentérologie, F-69003, Lyon, France; Claude Bernard Lyon 1 University, CRCL, Lyon, France; Lyon GEM Groupe d'étude du microbiote, Lyon, France.

Lena Biehl, Department I of Internal Medicine, Faculty of Medicine and University Hospital of Cologne, University of Cologne, 50924, Cologne, Germany; German Centre for Infection Research, Partner Site Bonn-Cologne, Cologne, Germany.

Simona Bo, Department of Medical Sciences, University of Turin, Turin, Italy.

Lorenzo Chaffringeon, Service de Maladies Infectieuses et Tropicales, Hôpital de la Croix-Rousse, Hospices Civils de Lyon, Lyon, France; Centre de Référence pour la prise en charge des Infections Ostéo-Articulaires complexes de Lyon (CRIOAc Lyon), Hospices Civils de Lyon, France.

Elena Corcione, University of Gastronomic Sciences, Pollenzo Campus, Piazza Vittorio Emanuele 9, fraz. Pollenzo, Bra (CN), Italy.

Silvia Corcione, Department of Medical Science, University of Turin, AOU Città della Salute e della Scienza di Torino, Turin, Italy; Tufts Medical Center, USA.

Cristina Costa, Microbiology and Virology Unit, University Hospital Città della Salute e della Scienza di Torino, Italy; Department of Public Health and Paediatrics, University of Torino, Italy.

Benjamin Davido, Maladies Infectieuses, Hôpital Universitaire Raymond-Poincaré, AP-HP Université Paris Saclay, 92380 Garches, France; FHU PaCeMM, Hôpital Saint-Antoine, AP-HP Université Paris Centre, 75571 Paris Cedex 12, France.

Francesco De Rosa, Department of Medical Science, Infectious Diseases, University of Turin; AOU Città della Salute e della Scienza di Torino, Turin, Italy.

Giovanni Di Perri, Department of Medical Science, Infectious Diseases Clinic, University of Turin, Italy.

Ilario Ferrocino, DISAFA-Department of Agricultural, Forest and Food Sciences, University of Turin, Italy.

Rohma Ghani, Department of Infectious Disease, Imperial College Healthcare NHS Trust, London, UK.



Tiscar Graells, Department of Neurobiology, Care Sciences and Society (NVS), Division of Family Medicine and Primary Care, Karolinska Institutet, Huddinge, Stockholm, Sweden.

Bastiaan Haak, Host-Microbiota Interactions Laboratory, Wellcome Sanger Institute, Hinxton, UK; Center for Experimental and Molecular Medicine, Amsterdam UMC, Amsterdam, The Netherlands.

Jannie Henderickx, Center for Microbiome Analyses and Therapeutics, Leiden University Center of Infectious Diseases (LUCID), Leiden University Medical Center, Leiden, Netherlands.

Ed J. Kuijper, Center for Microbiota Analysis and Therapeutics, Leiden University Center of Infectious Diseases (LUCID), Leiden, Netherlands.

Gianluca Ianiro, Gemelli Hospital, Cattolica University Rome, Italy.

Sébastien Imbert, Department of Parasitology Mycology, University Hospital of Bordeaux; Bordeaux Cardio-Thoracic Research Centre (CRCTB), Bordeaux University; National Reference Center for Chronic Aspergillosis, Bordeaux, France.

Blair Merrick, Centre for Clinical Infection and Diagnostics Research, Guy's and St Thomas' NHS Foundation Trust, King's College, London SE17EH, UK.

Simone Mornese Pinna, Department of Medical Science, University of Turin, AOU Città della Salute e della Scienza di Torino, Turin Italy.

Maria Rescigno, IRCSS Humanitas Research Hospital, Milan, Italy; Department of Biomedical Sciences, Humanitas University, Milan, Italy.

Davide Giuseppe Ribaldone, Division of Gastroenterology, Department of Medical Sciences, University of Turin, Turin, Italy.

Harry Sokol, Sorbonne Université, AP-HP, Saint-Antoine Hospital, Gastroenterology Department, Paris, France; Gut, Liver & Microbiome Research (GLIMMER) FHU, Paris, France.

Silvia Turroni, Department of Pharmacy and Biotechnology, Alma Mater Studiorum University of Bologna, Italy.

Joffrey van Prehn, Department of Clinical Microbiology, Leiden University Center for Infectious Diseases, Leiden University Medical Center, Leiden, Netherlands.

SCIENTIFIC PROGRAM

Day 1 - May 5, 2025

- 9:00 Registration
- 10:00 Opening and welcome (E.J. Kuijper, N. Benech, S. Corcione, G. Di Perri)

INTRODUCTION TO MICROBIOME

Chair: F.G. De Rosa, E.J. Kuijper

- 10:10 How Microbiome Science Can Efficiently Contribute to the Food System: From Environment to Human Health **(I. Ferrocino)**
- 10:30 How to develop a hospital Center for Microbiome Analysis and Therapeutics (J. Henderickx)
- 10:50 Translating Microbiome Research from and to the clinic (H. Sokol)
- 11:10 Discussion (all speakers)
- 11:20 Coffee break

HOW TO TARGET MICROBIOME IN CLINICAL PRACTICE PART 1

Chair: S. Corcione, B. Merrick

- 11:50 Probiotics & prebiotics, LBP in 2025 (N. Benech)
- 12:10 Future applications of Phage therapy (L. Chaffringeon)
- 12:30 How to build an FMT program: from C. *difficile* to non-communicable disorder, from endoscopy to oral **(G. laniro)**
- 12:50 Discussion (all speakers)
- 13:10 Lunch

HOW TO TARGET MICROBIOME IN CLINICAL PRACTICE PART 2

Chair: N. Benech, S. Corcione

- 14:00 Level of evidence and unmet needs in microbiome literature (B. Davido)
- 14:20 Successful and unsuccessful story: IBD (D.G. Ribaldone)
- 14:40 FMT to treat and prevent infectious diseases other than CDI (R. Ghani)
- 15:00 MDRO colonization and infections (B. Merrick)
- 15:20 Pharmacomicrobiomics in immunocompromised host (S. Turroni)
- 15:40 Gut microbiome signature for precision medicine (F. Asnicar)
- 16:00 Closing remarks
- 16:30 End Day 1

Day 2 - May 6, 2025

THE FUTURE: LET'S THINK OUTSIDE THE GUT

Chair: G. Di Perri, E.J. Kuijper

- 9:00 Brain gut axis (J. van Prehn)
- 9:20 Gut and Lung Microbiome Dynamics in Severe Infections (B. Haak)
- 9:40 Urinary microbiome (T. Graells)
- 10:00 Skin microbiome (S. Mornese Pinna)
- 10:20 Host-diet-microbiome interactions at protein level (A. Leshsem)
- 10:40 Discussion (all speakers)
- 11:00 Coffee break

THE FUTURE: VIROME, MYCOBIOME AND ONE HEALTH APPROACH

Chair: C. Costa, S. Bo

- 11:20 Virome in lung transplant patients (S. Corcione)
- 11:40 Mycobiome and Asthma (S. Imbert)
- 12:00 Microbiome interventions to improve the outcome of cancer treatment **(M. Rescigno)**
- 12:20 European regulation of FMT and LBP (E. Corcione)
- 12:40 Upcoming therapeutic intervention of the gut microbiome (L. Biehl)
- 13:00 Discussion (all speakers)
- 13:20 Final remarks & conclusions (E.J. Kuijper, S. Corcione, N. Benech)
- 13:30 Lunch



WITH THE NON-CONDITIONING CONTRIBUTION OF





ECM ITALIAN PROVIDER AND ORGANIZING SECRETARIAT health data consulting

via Morghen 27, 10143 Torino P.IVA 01429280058 Tel. +39 011 0267950 - Fax 011.0267954 Mail segreteria@hdcons.it