



Kiel University
Christian-Albrechts-Universität zu Kiel



PMI Precision Medicine
in Chronic Inflammation

UNIVERSITY OF
COPENHAGEN



RTG  I743
genes environment inflammation



Danish Diabetes Academy
Funded by the Novo Nordisk Foundation



Target
The Microbiome as a
Therapeutic Target
in Inflammatory Bowel Diseases

PhD course on Frontiers in Microbiome Research

12-15 June 2022

Sinatur Hotel Gl. Avernæs
Helnæsvej 9
DK-5631 Ebberup

Session overview



Day 1	Sunday 12 June Basic crash course on Bioinformatics Keynote talk
Day 2	Monday 13 June The Microbiota, Its Evolution and Statistical Approaches Welcome, meet & greet Speaker presentations Oral presentations: OP 1-3 Poster session I Poster pitches: PP 1-16 Poster presentations: PP 1-16 & OP 1-2
Day 3	Tuesday 14 June Further Insights into the Microbiota Speaker presentations Oral presentations: OP 4-5 Workshops 4 parallel workshops Poster session II Poster pitches: PP 17-31 Poster presentations: PP 17-31 & OP 4-5
Day 4	Wednesday 15 June Host-microbiota Interaction in Immune Response Speaker presentations Farewell

Programme

Sunday 12 June

- 13:30–14:30 Bus transportation from Odense Central Station to Sinatur Hotel Gl. Avernæs
- 14:00 Arrival bus from Kiel
- 14:00-15:15 Check-in, coffee & snacks
- 15:15-17:15 Basic Crash Course on Bioinformatics (with short break)
Associate Professor **Mani Arumugam**, University of Copenhagen (DK)
- 17.15–18:00 Free time & possibility of mounting of posters
- 18:00-19:30 Informal dinner
- 20:00-20:45 Chair: Professor **Karsten Kristiansen**, University of Copenhagen (DK)
Keynote talk: Online presentation
Host Microbiome Interactions in Health and Disease
Professor **Eran Elinav**, Weizmann Institute of Science (IL)
- 20:45-21:00 Questions & answers
- 21:00- Meet the other participants for a drink in the bar (optional)

Programme

Monday 13 June

07:30-09:00 Morning exercise (optional), breakfast & mounting of posters

Day I **The Microbiota, Its Evolution & Statistical Approaches**

Chair: Professor **Torben Hansen**, University of Copenhagen (DK)

09:00-09:30 Welcome, meet & greet

Professor **Torben Hansen**, University of Copenhagen (DK),
Professor **Andre Franke**, Kiel University (DE),
Professor **Karsten Kristiansen**, University of Copenhagen (DK)

09:30-09:55 Statistical Analysis of Human Microbiota Studies

Professor **Astrid Dempfle**, Kiel University (DE)

09:55-10:05 Questions & answers

10:05-10:15 Energizer

10:15-10:40 Evolutionary Perspectives on the Gut Microbiota

Professor **John Baines**, Max Planck Institute for Evolutionary Biology (DE)

10:40-10:50 Questions & answers

10:50-11:20 Coffee break

11:20-11:40 **Short talk selected from submitted abstracts**

Long-term Dietary Effects on Human Gut Microbiota Composition
Employing Shotgun Metagenomics Data Analysis

MSc **Alba Troci**, Kiel University (DE)

- 11:40-12:00 **Short talk selected from submitted abstracts**
- Personalized Polyp Prevention – Proposal for Grant Application
- Postdoctoral Fellow **Anne Kristine Eriksen**, Danish Cancer Society Research Center (DK)
- 12:00-12:20 **Short talk selected by organisers**
- Microbiome Analysis, When is it Enough? – A Pragmatic Approach
- Postdoctoral Fellow **Casper Sahl Poulsen**, Copenhagen Prospective Studies on Asthma in Childhood (COPSAC), Gentofte Hospital (DK)
- 12:20-13:20 Lunch
- 13:20-13:45 Impact of Diet on the Gut Microbiota in Children and Adults
- Professor **Tine Rask Licht**, Technical University of Denmark (DK)
- 13:45-13:55 Questions & answers
- 13:55-14:05 Energizer
- 14:05-14:45 **Keynote talk:**
Seeing the Reflection of the Human Gut Microbiome in the Bloodstream
- Assistant Professor **Sean Gibbons**, Institute of Systems Biology, Seattle (US)
- 14:45-14:55 Questions & answers
- 14:55-16:15 Coffee & cake, free time or voluntary networking activities
- 16:15-16:40 Poster pitches: PP 1-16
- Chair: Professor **Torben Hansen**, University of Copenhagen (DK)
- 16:40 -18:10 Posters & drinks: PP 1-16 & OP 1-2



18:10-19:00	Free time
19:00-21:00	Dinner
21:00-22:30	Bonfire & drinks (optional)

Programme

Tuesday 14 June

07:00-08:15 Morning exercise (optional) & breakfast

Day II Further Insights into the Microbiota

Chair: Professor **Andre Franke**, Kiel University (DE)

08:15-08:25 Welcome & follow up from the day before

08:25-09:05 **Keynote talk: Online presentation**
Optimized Phage Cocktails for Treatment of Chronic and Acute Infections

Senior Director, PhD **Iddo Weiner**, BiomX Inc. (IL)

09:05-09:15 Questions & answers

09:15-09:20 Energizer

09:20-09:45 Within-Species Diversity for Machine Learning (WiSDoM)

Chief Scientific Officer, PhD **Henrik Bjørn Nielsen**, Clinical Microbiomics A/S (DK)

09:45-09:55 Questions & answers

09:55-10:25 Coffee break

10:25-10:45 **Short talk selected from submitted abstracts**

Towards a Multi-layer Network Analysis of Microbiome and other Omics Data: Characterizing Important Constituents in Health and Disease

PhD Student **Theresa Wilkat**, UKSH, Kiel University (DE)

10:45-11:05

Short talk selected from submitted abstracts

Pregnancy-induced Microbiota Changes in Mice with IEC-Restricted Knockout of the Autophagy-gene ATG16L1

Postdoctoral Fellow **Victor Alonso Lopez Agudelo**, UKSH, Kiel University (DE)

11:05-11:10

Energizer

11:10-11:50

Keynote talk:

Systems Ecology of Human-Microbiome Cross-Talk

Professor **Paul Wilmes**, Luxembourg University (LU)

11:50-12:00

Questions & answers

12:00-13:00

Lunch

13:00-13:10

Introduction to workshops

Chair: Professor **Andre Franke**, Kiel University (DE)

13:10-15:10

Workshop 1

Basic Microbiome Analysis in R

MSc **Eike Wacker**, Kiel University (DE)

Dr **Malte Rühlemann**, Kiel University (DE)

Workshop 2

Shotgun & Whole Genome Analysis (advanced)

MSc **Alba Troci**, Kiel University (DE)

Dr **Philipp Rausch**, Kiel University (DE)

Postdoctoral fellow **Lena Best**, Kiel University (DE)

Workshop 3

Designing Human Microbiome Studies

Professor **Torben Hansen**, University of Copenhagen (DK)

Dr **Felix Sommer**, Kiel University (DE)

Dr **Corinna Bang**, Kiel University (DE)

Postdoctoral fellow **Casper Sahl Poulsen**, Copenhagen Prospective Studies on Asthma in Childhood (COPSAC), Gentofte Hospital (DK)

Workshop 4
Culturomics

Dr **Simon Graspentner**, University of Lübeck (DE)

Professor **Mathilde Poyet**, Massachusetts Institute of Technology (US)

Professor **Karsten Kristiansen**, University of Copenhagen (DK)

15:10-16:45 Coffee & cake, free time or voluntary networking activities

16:45-17:10 Poster pitches: PP 17-31

Chair: Professor Andre Franke, Kiel University (DE)

17:10-18:40 Posters & drinks: PP 17-31 & OP 4-5

18:40-19:15 Free time

19:15-19:30 Pre-dinner drinks

19:30-21:00 Informal gala dinner (no dress code)

21:00- Networking & drinks in the bar (optional)

Programme

Wednesday 15 June

07:00-08:50 Morning exercise (optional), breakfast & check out

Day III **Host-microbiota Interaction in Immune Response**

Chair: Professor **Karsten Kristiansen**, University of Copenhagen (DK)

08:50-09:00 Welcome & follow up from the day before

09:00-09:40 **Keynote talk:**
Functional Host-microbe Interactions in Chronic Inflammatory Diseases

Professor **Philip Rosenstiel**, Kiel University (DE)

09:40-09:50 Questions & answers

09:50-09:55 Energizer

09:55-10:20 A Role for the Gut Microbiota in Early Life Immune Programming

Professor **Susanne Brix Pedersen**, Technical University of Denmark (DK)

10:20-10:30 Questions & answers

10:30-11:10 Walk & talk & coffee to-go

11:10-11:40 Best poster & SoMe prizes

11:40-12:40 Group photo & lunch

- 12:40-13:05 Using Integrated Multi-omics Analyses to Identify Host-Microbial Interactions in IBD
Emmy Noether Junior Group Leader Dr. **Melanie Schirmer**,
Technical University of Munich (DE)
- 13:05-13:15 Questions & answers
- 13:15-13:40 MyFoodRepo, an AI-enabled Food Tracking App for High Resolution Dietary Assessment
Dr **Harris Héritier**, École Polytechnique Fédérale de Lausanne (CH)
- 13:40-13:50 Questions & answers
- 13:50-14:15 Homeostasis Perturbations in the Gut Ecosystem of Industrialized Populations
Professor **Mathieu Groussin**, Institute of Clinical Molecular Biology, Kiel University (DE)
- 14:15-14:25 Questions & answers
- 14:25-14:45 Closing remarks & evaluation
Professor Torben Hansen, University of Copenhagen (DK),
Professor Andre Franke, Kiel University (DE),
Professor Karsten Kristiansen, University of Copenhagen (DK)
- 14:45-14:55 Farewell & sandwiches to-go
- 15:10 Bus transportation to Kiel
- 15:20 Bus transportation to Odense Central Station

Organising Committee Scientific Programme

Andre Franke, Professor
Kiel University (DE)

Karsten Kristiansen, Professor
University of Copenhagen (DK)

Torben Hansen, Professor
University of Copenhagen (DK)

Sponsors

The Cluster of Excellence “Precision Medicine in Chronic Inflammation” (DE)

Research Unit 5042 miTarget (DE)

Kiel University (DE)

The PhD Graduate Program in Basic Metabolism & the Graduate School of Health and Medical Sciences, University of Copenhagen (DK)

University of Copenhagen (DK)

Danish Diabetes Academy (DK)

