

## Basic Science Course

### Epithelial transport in the GI tract

July 4-6, 2019

University of Pécs, Szentágothai Research Center, Pécs, Hungary  
Hotel Palatinus City Center, Pécs, Hungary



Programme

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### **Course directors**

Péter Hegyi, Hungary

József Maléth, Hungary

Áron Vincze, Hungary

### **Faculty**

Kim Barrett, United States of America

Jeffrey Beekman, The Netherlands

Hugo de Jonge, The Netherlands

Mark Donowitz, United States of America

Anna Ermund, Sweden

Mike Gray, United Kingdom

Stephen Keely, Ireland

Shmuel Muallem, United States of America

Zoltán Rakonczay, Hungary

Miklós Sahin-Tóth, United States of America

Ursula Seidler, Germany

Alexei Tepikin, United Kingdom

Gábor Varga, Hungary

### **Tutors**

Anita Balázs, Germany

Eszter Becskeházi, Hungary

Attila Ébert, Hungary

Bálint Erőss, Hungary

Klaudia Farkas, Hungary

Anna Grassalkovich, Hungary

Eszter Hegyi, Hungary

Réka Molnár, Hungary

Petra Pallagi, Hungary

Emese Tóth, Hungary

Arpád Varga, Hungary

Viktória Venglovecz, Hungary

Ákos Zsembery, Hungary

## THURSDAY, July 4, 2019

### Registration

14:00 – 15:20

*Hotel Palatinus City Center*

All lectures on Thursday in *Room Nádor II*

### Introduction

15:20 – 15:30

#### **Welcome and introduction**

Péter Hegyi

### Session 1

15:30 – 16:00

#### **The role of the CFTR ion channel in gastrointestinal health and disease**

Mike Gray

16:00 – 16:30

#### **Regulation of intestinal Na absorption involves large multi-protein complexes**

Mark Donowitz

16:30 – 17:00

#### **Dysfunctions of intestinal HCO<sub>3</sub><sup>-</sup> transport in disease: Molecular mechanisms, consequences, and treatment options**

Ursula Seidler

17:00 – 17:30

Coffee break

## **Session 2**

17:30 – 18:00

**The ductal pathway of genetic risk in chronic pancreatitis**

Miklós Sahin-Tóth

18:00 – 18:30

**Organoid cultures: novel models of epithelial physiology and pathology**

József Maléth

18:30 – 19:00

**Modeling CF disease using 3D organoid cultures**

Jeffrey Beekman

20:00

**Dinner at Hotel Palatinus (room Bartók)**

## FRIDAY, July 5, 2019

### Session 3

*Hotel Palatinus City Center, room Nádor II*

08:00 – 08:30

**Importance of ion channels for mucus properties**

Anna Ermund

08:30 – 09:00

**Bile Acids and Intestinal Transport – Strategies for Therapeutic Intervention**

Stephen Keely

09:00 – 09:30

**Antimicrobial effects of epithelial cells**

Shmuel Muallem

09:30 – 10:00

**Modulation of epithelial transport and barrier function by commensal and probiotic microorganisms**

Kim Barrett

10:00

**Walk to Szentágothai Research Centre**

10:30 – 11:00

**Coffee break**

11:00 – 13:00

**Hands-on sessions Timeslot 1**

*Szentágothai Research Centre & Medical School, University of Pécs*

- **Parallel session 1: Isolation of colon crypts and epithelial organoids**  
Áron Vincze, Klaudia Farkas, Árpád Varga
- **Parallel session 2: Isolation of gastric and oesophageal cells, Ussing chamber & Bacteria**  
Bálint Erőss, Viktória Venglovecz, Anita Balázs, Ákos Zsembery, Eszter Becskeházi
- **Parallel session 3: Isolation of pancreatic duct and acini & Genetics**  
Petra Pallagi, Eszter Hegyi, Anna Grassalkovich
- **Parallel session 4: Confocal and fluorescence imaging**  
Emese Tóth, Réka Molnár, Attila Ébert

13:00 – 14:00

**Lunch break**

14:00 – 16:00

**Hands-on sessions Timeslot 2**

*Szentágothai Research Centre & Medical School, University of Pécs*

- **Parallel session 1: Isolation of colon crypts and epithelial organoids**  
Áron Vincze, Klaudia Farkas, Árpád Varga
- **Parallel session 2: Isolation of gastric and oesophageal cells, Ussing chamber & Bacteria**  
Bálint Erőss, Viktória Venglovecz, Anita Balázs, Ákos Zsembery, Eszter Becskeházi
- **Parallel session 3: Isolation of pancreatic duct and acini & Genetics**  
Petra Pallagi, Eszter Hegyi, Anna Grassalkovich
- **Parallel session 4: Confocal and fluorescence imaging**  
Emese Tóth, Réka Molnár, Attila Ébert

16:00 – 16:30

Coffee break

16:30 – 18:00

**Presentation of 5 selected abstracts**

*Szentágothai Research Centre*

18:00

Walk to Hotel Palatinus City Center

19:00

Group transfer to Dinner

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## SATURDAY, July 6, 2019

### Session 4

*Hotel Palatinus City Center, room Nádor II*

08:30 – 09:00

#### **Salivary glands**

Gábor Varga

09:00 – 09:30

#### **Physiology and pathophysiology of pancreatic ductal ion transport**

Zoltán Rakonczay

09:30 – 10:00

#### **Cell signalling and bioenergetics of pancreatic acinar cells**

Alexei Tepikin

10:00 – 10:30

#### **Chloride and bicarbonate secretion studied in 3D and 2D human colonic organoids (CF/non-CF)**

Hugo de Jonge

10:30

#### **Walk to Szentágothai Research Centre**

10:55 – 11:10

Coffee break

11:10 – 13:10

**Hands-on sessions Timeslot 3**

*Szentágothai Research Centre & Medical School, University of Pécs*

- **Parallel session 1: Isolation of colon crypts and epithelial organoids**  
Áron Vincze, Klaudia Farkas, Árpád Varga
- **Parallel session 2: Isolation of gastric and oesophageal cells, Ussing chamber & Bacteria**  
Bálint Erőss, Viktória Venglovecz, Anita Balázs,  
Ákos Zsembery, Eszter Becskeházi
- **Parallel session 3: Isolation of pancreatic duct and acini & Genetics**  
Petra Pallagi, Eszter Hegyi, Anna Grassalkovich
- **Parallel session 4: Confocal and fluorescence imaging**  
Emese Tóth, Réka Molnár, Attila Ébert

13:10 – 14:00

**Lunch break**

14:00 – 16:00

**Hands-on sessions Timeslot 4**

*Szentágothai Research Centre & Medical School, University of Pécs*

- **Parallel session 1: Isolation of colon crypts and epithelial organoids**  
Áron Vincze, Klaudia Farkas, Árpád Varga
- **Parallel session 2: Isolation of gastric and oesophageal cells, Ussing chamber & Bacteria**  
Bálint Erőss, Viktória Venglovecz, Anita Balázs,  
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- **Parallel session 4: Confocal and fluorescence imaging**  
Emese Tóth, Réka Molnár, Attila Ébert

16:00 – 16:10

**Closure and farewell**

*Szentágothai Research Centre*

16:15

**Group transfer to Budapest**

## Organiser

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