ERS Research Seminar

Innovative 3D models for understanding mechanisms underlying lung diseases: powerful tools for translational research

7-8 April 2022
Lisbon, Portugal

Thursday, 07th April 2022

08.00 – 08.30 Arrival and registration
Coffee and networking

08.30 – 08.40 Welcome and opening – Janette Burgess, Ramon Farre

Opening Session – Keynote lecture
Chairs: Janette Burgess (Netherlands), Ramon Farre (Spain)

08.40 – 09.30 What is the need and why is it the time for innovative models for understanding human lung diseases – Daniel Weiss (USA)

09.20 – 09.30 General discussion

Session I – Technological advances for developing translational lung models
09.30 – 10.00 Developing a lung on a chip model – Olivier Guenat (Switzerland)
10.00 – 10.30 Precision cut lung slices going beyond airway responses – Jane Bourke (Australia)
10.30 – 10.45 Abstract oral presentation 1
10.45 – 11.15 General discussion

11.15 – 11.45 *Coffee break*

Session II – Harnessing the lung for developing translational 3D models
11.45 – 12.15 Human lung ECM derived hydrogels – Janette Burgess (Netherlands)
12.15 – 12.45 3D printing the human lung using hydrogels – Darcy Wagner (Sweden)
12.45 – 13.00 Abstract oral presentation 2
13.00 – 13.30 General discussion

13.30 – 14.15 *Lunch break*

14.15 – 15.15 **POSTER SESSION**

Session III – The challenge of mechanical parameters in the 3D environment

15.15 – 15.45 3D imaging in biomaterials – Apeksha Shapeti (Belgium)
15.45 – 16.15 Advanced measurements of 3D cell/ECM mechanics – Nuria Gavara (Spain)
16.15 – 17.00 Abstract oral presentation 3
17.00 – 17.15 General discussion

17.15 – 17.45 *Coffee break*

17.45 – 19.15 Breakout groups to discuss current challenges and needs

20.00 *Dinner*

Friday, 08th April 2022

08.30 – 09.30 Report back from break out groups and identification of goals for newly established networks
Chairs: Janette Burgess, Ramon Farre

Discussion of research seminar's outcomes
Preparation of outputs

09.30 – 10.00 *Coffee break*

Session IV – Harnessing 3D models of the lung for translational outcomes
10.00 – 10.30 Mechanopharmacology of the lung – Alastair Stewart (Australia)
10.30 – 11.00 3D organoids informing lung regeneration – Rob Hynds (UK)
11.00 – 11.30 Using tissue mimetic models to understand lung cancer – Dania Movia (Ireland)
11.30 – 11.45 Abstract oral presentation 4
11.45 – 12.15 General discussion

12.15 – 13.15 Closing remarks – Janette Burgess, Ramon Farre

13.15 – 14.00 Lunch on departure