5th International Symposium on Translational Research on Acute Lung Injury (*INSPIRES*)

Endorsed by the Translational Biology Group (*TBG) of European Society of Intensive Care Medicine (ESICM)*

- **Date: November 17-18 2022.**
- **Venue: Hospital Universitario de Getafe. Getafe, Madrid, Spain.**
- **Place: SALÓN DE ACTOS, ground floor, Hospital Universitario de Getafe.**
- **Registration fee: 300 € (250 € for members of societies).**

DIRECTOR: Óscar Peñuelas

SCIENTIFIC AND ORGANIZING COMMITTEE

1.John Laffey.
2.Nicole Juffermans.
3.Oscar Peñuelas.
4.Marcus J. Schultz.
5.José Ángel Lorente.

GUEST FACULTY

	Center, City, Country
Nicole Juffermans	AMC, Amsterdam
John Laffey	Galway, Ireland
Hector Gonzalez	Galway, Ireland
Lorenzo del Sorbo	Toronto, Canada
Patricia Rocco	Rio de Janeiro, Brazil
Bruno Pinheiro	Juiz da Fora, Brazil
Wolfgang Kuebler	Berlin, Germany
Fernando Suarez Sipman	Madrid, Spain
Guillermo M. Albaiceta	Oviedo, Spain
Laura Amado-Rodríguez	Oviedo, Spain
Gerard Curley	Dublin, Ireland
Ferrán Barbé	Lleida, Spain
David de Gonzalo-Calvo	Lleida, Spain
Elisa Zanier	Milano, Italy
Gloria Vegliante	Milano, Italy
Ilaria Lisi	Milano, Italy
Lieuewe Bos	Amsterdam, The Netherlands
Leonoor Boers	Amsterdam, The Netherlands
Oriol Roca	Barcelona, Spain
Javier García	Madrid, Spain
Marcus Schultz	Amsterdam, The Netherlands
Laura Buiteman-Kruizinga	Amsterdam, The Netherlands
Marcelo Gama Abreu	Dresden, Germany
Raquel Herrero	Getafe, Madrid, Spain
Marco Ranieri	Rome, Italy
Vito Fanelli	Turin, Italy
Martin Scharffenberg	Dresden, Germany

	Center, City, Country
Jakob Wittenstein	Dresden, Germany
Paula Martín Vicente	Oviedo, Spain
Fernanda F. Cruz	Rio de Janeiro, Brazil
Pedro Leme Silva	Rio de Janeiro, Brazil
Alberto Pueyo Rabanal	Madrid, Spain
Lucas Hoyos Mejía	Madrid, Spain
Pieter Sloos	Amsterdam, The Netherlands
Daan van de Brink	Amsterdam, The Netherlands
Gema Sanchez	Getafe, Madrid, Spain
Jessica Gonzalez	Lleida, Spain
Grace Hogan	Dublin, Ireland
Laura Michalick	Berlin, Germany
Szandor Simmons	Berlin, Germany
Lídia Maria Carneiro Fonseca	Juiz da Fora, Brazil

Scope

Preclinical models cannot fully replicate clinical heterogeneity in the critically ill patient, but they remain useful to advance precision medicine for critically illness by enabling: understanding of specific biological processes; identification of key nodes in pro-injury and pro-resolution pathways; introduction of controlled heterogeneity to elucidate differential activation in mechanistic pathways; and use of reverse translation research of clinical findings to help identify key biological drivers for therapeutic targeting. In addition, reverse translation research might also have an important role in understanding why some promising candidate treatments are not beneficial in human clinical trials.

Several areas of uncertainty remain regarding the best path forward to advance precision medicine in critically illness. These key unanswered questions form a foundation for future areas of research. The impetus to develop and advance precision medicine strategies is clear. Deeper understanding of key nodes in mechanistic pathways established through rigorous preclinical studies and well-designed observational cohorts, paired with innovative trials designed to test for sources of heterogeneity that influence treatment responsiveness, will accelerate discovery of targeted therapies to reduce morbidity and mortality for critically ill patients.

Concerted coordination across the research community will be required to achieve this precision medicine vision. Mechanistic preclinical studies, translational clinical cohort studies, and randomised trials fulfill intertwined roles in understanding mechanisms, prognostic relevance, and therapeutic implications of heterogeneity in critical illness.

Welcome to the 5th INSPIRES

Dear Colleagues & Friends,

It's a great pleasure – as Director – to announce you the 5th Edition of the International Symposium on Translational Research on Acute Lung Injury (*INSPIRES*) that will be which will take place from November 17-18, 2022 in the Hospital Universitario de Getafe, Madrid, Spain.

Considering, the inputs from all 2019 attendees, partners and faculty members, we have developed a Programme which you will find in the web site section. As Committee members, we would like to stress, once again, the importance of participants' contribution for the success of the initiative. Therefore, considering the limitation in dialogue and mutual cultural exchanges in this last period, even more time will be devoted to discussion, in a face-to-face interaction and contribution from the audience.

The Scientific Programme has been designed to face all the challenges, hot topics and emerging issues of the not only in the Respiratory field in the critically ill patients admitted in the ICU but also key aspects of translational research in the Critical Care.

As in the past 4 years, one of our advocacy goal are the initiatives dedicated to Junior Clinicians and Researchers, who will be protagonists of the 2022 edition as well. INSPIRES will undergo some important remodeling, with the aim of becoming an international "Hub&Lab" for research in critical illness, in order to stimulate the development of new projects delineated by the youngest researchers and evaluated by the plenary room and an experts' panel. Furthermore, the year by year success of the INSPIRES, encourages us to pursue this activity giving the opportunity to young clinicians and researchers to present their valuable work, in front of an international audience, and become for the first time part of the Congress faculty.

We look forward to consolidate the existing cooperation with national and international associations for the promotion of the meeting as well as the increase of the initiatives dedicated to the younger ones, strengthening the promotional efforts and opportunities within the whole potential stakeholders.

We look forward to welcoming you in Madrid!

Yours Sincerely,

Óscar Peñuelas,
Director of INSPIRES, On behalf of Scientific Committee.

SCIENTIFIC PROGRAM

DAY 1. MORNING, NOVEMBER 17, THURSDAY

8:00-8:30	**REGISTRATION**	
8:30-8:40	***Institutional inauguration by a Public Healthcare Authority (SERMAS)***	
8:40-9:00	***OPENING SESSION: Relevance of translational research and future perspectives in the critically illness***	**Marco Ranieri**
9:00-11.00	**SESSION 1:**	**Moderator: Óscar Peñuelas**
09:00-09:15	Effects of automation of ventilation on MP in patients with ARDS	Laura Buiteman-Kruizinga
09:15-09:30	How COVID-19 changed our understanding of respiratory failure	Lorenzo Ball
09:30-09:45	Does spontaneous breathing activity during mechanical ventilation worsen lung injury?	Marcelo Gama de Abreu
09:45-10:00	Therapy with extracellular vesicles and mitochondria derived from mesenchymal stromal cells in experimental sepsis	Fernanda F. Cruz
10:00-10:15	Exvivo lung perfusion and translational research	Lucas Hoyos
10:15-10:40	Discussion	
10:40-11:00	COFFEE BREAK	
11:00-15:00	**SESSION 2:**	**Moderator: John Laffey**
11:00-11:15	Mesenchymal stromal cells for traumatic brain injury. From experimental to clinical studies	Elisa Zanier
11:15-11:30	Role of plasma extracellular vesicles as organ failure mediators in patients with ARDS	Vito Fanelli
11:30-11:45	Cell nucleus as a driver of lung injury"	Paula Martín Vicente
11:45-12:00	Mechanical ventilation with low PEEP ventilation Increases mechanical power and pulmonary neutrophilic inflammation in an experimental model of moderate to severe acute lung injury	Martin Scharffenberg
12:00-12:15	The microRNA signature of ventilator-induced alveolar damage in rats.	Gema Sánchez
12:15-12:30	Insights of the effects of Nitric Oxide in patients on mechanical ventilation.	Fernando Suarez Sipmann
12:30-12:45	Mediation and moderation of imatinib treatment in COVID-19	Lieuwe Bos
12:45-13:00	Stem Cell Therapy in ARDS and COVID-19	Patricia Rocco
13:00-13:15	Ex vivo hypothermic oxygenated perfusion for liver grafts in liver transplantation	Alberto Pueyo Rabanal

13:15-13:30	Effects of atelectatic areas on the surrounding lung tissue during mechanical ventilation in an experimental model of acute lung injury induced by LPS	Lídia Maria Carneiro Fonseca
13:30-13:45	High flow and awake prone positioning: what have we learnt?	Oriol Roca
13:45-14:00	Discussion	
14:00-15:00	**LUNCH**	

DAY 1. AFTERNOON, NOVEMBER 17, THURSDAY

15:00-17:30	**SESSION 3:**	**Moderator: Nicole Juffermans**
15:00-15:15	microRNA-based biomarkers for the clinical management of ARDS secondary to SARS-CoV-2 infection	David de Gonzalo-Calvo
15:15-15:30	Transcriptomic signatures to guide therapy in ARDS	Laura Amado-Rodríguez
15:30-15:45	The role of ADAMTS13 in trauma-induced coagulopathy	Pieter Sloos
15:45-16:00	Traumatic brain injury in patients results in tau pathology displaying prion-like properties in propagation and transmission	Gloria Vegliante
16:00-16:15	Neurological manifestations in COVID-19 are associated with elevated markers of blood-brain barrier disruption	Ilaria Lisi
16:15-16:30	Potentiating cystic fibrosis transmembrane conductance regulator function attenuates platelet-activation and -aggregation in blood of healthy donors and COVID-19 patients	Szandor Simmons
16:30-17:00	Discussion	
17:00-17:30	**COFFEE BREAK**	

DAY 1. AFTERNOON, NOVEMBER 17, THURSDAY

17:30-18:30	**SESSION 4:**	**Moderator: Guillermo M. Albaiceta**
17:15-17:30	LPS induced cardiomyopathy in a mice model	Vito Fanelli
17:30-17:45	New challenges in the interpretation of lung perfusion-ventilation matching	Lorenzo Ball
17:45-18:00	Endothelial permeability in sepsis	Daan van de Brink
18:00-18:15	Activation of mechanosensitive TRP channels drives vascular barrier failure during mechanical ventilation.	Laura Michalick
18:15-18:30	Discussion	
18:30	**CLOSE SESSION**	

SOCIAL EVENT*: *FRIENDLY ATMOSPHERE AND DINNER (20:30 pm)

DAY 2. MORNING, NOVEMBER 18, FRIDAY

8:15-10:30	SESSION 5:	Moderator. Marcus Schultz
8:15-8:30	Alveolar host response in ARDS	Leonoor Boers
8:30-8:45	The effects of liberal versus conservative fluid therapy in different mechanical ventilation strategies on lung and distal organ damage	Pedro Leme Silva
8:45-9:00	Pulmonary long term sequelae in critical ill COVID patients	Jessica Gonzalez
09:00-9:15	Biomarkers in patients with ARDS supported with VV-ECMO	Lorenzo del Sorbo
09:15-09:30	Mechanisms of lung-brain cross talk"	Luciana Mascia
09:30-09:45	The Impact of chronic liver diseases in the lung	Raquel Herrero
09:45-10:00	Brain repercussions of recruitment maneuvers	Javier García
10:00-10:15	Changes in the ventilatory management in COVID patients compared with ARDS non COVID patients: a Brazilian experience	Bruno Pinherio
10:15-10:30	Discussion	
10:30-11:00	**COFFEE BREAK**	

DAY 2. MORNING, NOVEMBER 18, FRIDAY

11:00-13:45	SESSION 6:	Moderator: José A. Lorente
11:00-11:15	Efficacy of nebulized extracellular vesicles in E. coli induced pneumonia	Hector Gonzalez
11:15-11:30	ADAMTS13 and trauma-induced organ failure	Derek Kleinveld
11:30-11:45	Regional distribution of mechanical power, intensity and pulmonary inflammation in experimental lung injury.	Robert Huhle
11:45-12:00	Biomarkers of VILI, a systematic review	Tommaso Pettenuzzo
12:00-12:15	The PaO2/FiO2 ratio for ARDS diagnosis and stratification: physiological and clinical limits	Tommaso Tonetti
12:15-12:30	Artificial intelligence based decision support to guide mechanical ventilation in acute respiratory failure	Jakob Wittenstein
12:30-12:45	The future of automated ventilation	Marcus Schultz
12.45-13:00	Alpha-1-antitrypsin: bystander or player in ARDS.	Grace Hogan

13:00-13:30	Discussion	
13:30-14:30	**LUNCH**	

DAY 2. AFTERNOON, NOVEMBER 18, FRIDAY

14:30-16:30	**SESSION 7:**	**Moderator: Bruno Pihnerio**
14:30-14:45	Personalised Medicine for ARDS	Patricia Rocco
14:45-15:00	Resolving inflammation in ARDS: The role of counter-regulation of inflammation	Gerard Curley
15:00-15:15	Non-invasive estimation of transpulmonary pressure in spontaneously breathing patients	Marta Sanchez Galindo
15:15-15:30	Efficacy of nebulised Extracellular Vesicles in E. coli induced pneumonia	Hector Gonzalez:
15:30-15:45	The impact of mechanical stress on lung cancer	Inés López-Alonso
15:45-16:00	Cell therapies for ARDS - challenges and opportunities	John Laffey
16:00-16:15	Preliminary experience with the use of Neural pressure support ventilation	Fernando Suarez-Sipmann
16:15-16:30	Discussion	
16:30	**CLOSE SESSION & END SYMPOSIUM**	