

2<sup>nd</sup>

# PLUG Physiology Symposium

*Discussing research with a taste*

Scientific meeting on applied  
respiratory physiology in the critically ill

the PLVG

[www.plugwgroup.org](http://www.plugwgroup.org)

Boston, MA (USA)

**Sept. 26-28 2024**



**Program**

# Join us

for the second edition of the PLUG Physiology Symposium. We will meet in Boston for two and a half days to listen and discuss the latest research data on respiratory physiology presented by leading groups from across all continents. In addition, special lectures in Jordi Mancebo's memory will highlight the most recent advancements in the field and focused discussion will lead to methodological publications.

*Keynote lecture in honour of Jordi Mancebo*



## Executive Committee

**Laurent Brochard**, Toronto (CA)  
**Leo Heunks**, Nijmegen (NL)  
**Tommaso Mauri**, Milano (IT)  
**Daniel Talmor**, Boston (USA)

## Scientific Committee

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**Marco Ranieri**, Bologna (I)  
**Oriol Roca**, Sabadell (E)  
**Elena Spinelli**, Milano (I)

# Contents



<b>Program September 26</b>	.....	pag. 5, 6
<b>Program September 27</b>	.....	pag. 7, 8, 9, 10
<b>Program September 28</b>	.....	pag. 11
<b>E-Poster board session Group 1</b>	.....	pag. 12
<b>E-Poster board session Group 2</b>	.....	pag. 13
<b>E-Poster board session Group 3</b>	.....	pag. 14
<b>General information</b>	.....	pag. 15, 16, 17
● Registration fees	.....	pag. 16
● Instructions for payment	.....	pag. 17
● On-site secretariat	.....	pag. 17
<b>Hotel</b>	.....	pag. 18, 19
<b>Acknowledgements</b>	.....	pag. 20



**Program | September 26**

9.00 am - 9.10 am

**WELCOME**

Laurent Brochard, Leo Heunks, Tommaso Mauri

9.10 am - 9.15 am

**WELCOME TO BOSTON**

Daniel Talmor

9.15 am - 9.45 am

**Physiological mechanisms of dyspnea**

Robert Banzett

**BEST ABSTRACT****Advanced respiratory monitoring to optimise physiology**

Chairpersons: Marcelo Amato, Annemijn Jonkman

9.45 am - 10.05 am

**Setting PEEP based on electrical impedance tomography or esophageal pressure results in better pulmonary hemodynamics - Preliminary analysis**

Mayson Sousa - Katira Bhusha, Pellegrini Mariangela, Dubo Sebastian, Menga Luca S, Docci Mattia, Schreiber Annia, Post Martin, Brochard Laurent

10.05 am - 10.25 am

**Effect of mass loading on partitioned respiratory mechanics and EIT-derived measures of collapse and hyperdistention in an AHRF swine model**

Alice Nova - Victor Marcus Henrique, Xin Yi, Alcala Glasiele Cristina, Gaulton Timothy, Spina Stefano, Winkler Tilo, Berra Lorenzo, Cereda Maurizio

10.25 am - 10.45 am

**Evaluation of the effects of continuous anterior thoracic compression on ventilation perfusion ratios and hemodynamics during ARDS**

Pascale Labedade - Tuffet Samuel, Moncomble Elsa, Boujelben Mohammed, Haudebourg Anne Fleur, Masi Paul, Bagate François, Mekontso Dessap Armand, Carteaux Guillaume

**Program | September 26**

10.45 am - 11.05 am

**Regional effects of PEEP on strain and recruitability:  
Insights from experimental and clinical measurements**

**Luca S. Menga** - Sousa Mayson, Sun Nannan, Roldan Rollin, Brault Clement, Pellegrini Mariangela, Ko Matthew, Damiani Felipe, Poophiboon Vorakamol, Dubo Sebastian, Vieira Fernando, Rodriguez Antenor, Chen Lu, Schreiber Annia, Post Martin, Brochard Laurent,

11.05 am - 11.30 am

**COFFEE BREAK**

11.30 am - 11.50 am

**Effect of individualized positive end-expiratory pressure titrated by electrical impedance tomography on ventilation-perfusion distribution in patients with acute respiratory distress syndrome**

**Yuan Xueyan** - Haibo Qiu, Ling Liu

11.50 am - 12.10 pm

**The superimposed pressure does not approximate the elevated pleural pressure in subjects with class III obesity**

**Stefano Spina** - Mantz Lea, Nova Alice, Xin Yi, Gerard Sarah e, Fintelmann Florian J, Berra Lorenzo, Cereda Maurizio, Ribeiro De Santis Santiago Roberta, Grassi Luigi

12.10 pm - 12.30 pm

**The recruitment-to-inflation ratio reflects the impact of PEEP on dynamic lung strain a CT scan study in a model of ARDS**

**Francesco Murgolo** - Francesco Murgolo, Grieco Domenico Luca, Spadaro Savino, Grasso Salvatore

12.30 pm - 1.00 pm

**The effects of gravity on lung ventilation and perfusion**

**Marcelo Amato**

1.00 pm - 2.00 pm

**LUNCH**

**Program | September 26****BEST ABSTRACT****Mechanisms of VILI**

Chairpersons: Jeremy Beitler, Elena Spinelli

2.00 pm - 2.20 pm

**Topographical correspondence between macrophage-associated lung inflammation and mechanical strain during ventilator-induced lung injury**Gaetano Perchiazzi - *Liggieri Francesco, Chiodaroli Elena, Pellegrini Mariangela, Puuvuori Emmi, Sigfridsson Jonathan, Velikyan Irina, Chiùmello Davide, Ball Lorenzo, Pelosi Paolo, Stramaglia Sebastiano, Antoni Gunnar, Eriksson Olof, Perchiazzi Gaetano*

2.20 pm - 2.40 pm

**Lung mechanics may mediate pro-fibrotic signaling in mechanically ventilated patients with ARDS**Alexis Serra - *Garcia Ivan, Padilla Clarissa, Dabideen Rachel, Olney Sara, Jeremy Beitler*

2.40 pm - 3.00 pm

**From lobar inflammation to diffuse self-inflicted lung injury: An experimental study**Anna Damia - *Spinelli Elena, Consalvo Leonardo, Grasselli Giacomo, Mauri Tommaso*

3.00 pm - 3.20 pm

**Lung stress mapping: Innovative technology to visualize a hidden risk of ventilator-induced lung injury**Takashi Maezawa - *Yoshida Takeshi, Hashimoto Haruka, Iwata Hirofumi, Fadilah Firtiogusran Andi Muhammad, Shrestha Kriti, Koyama Yukiko, Fujino Yuji*

3.20 pm - 3.50 pm

**Jordi Mancebo keynote lecture. A journey through science**

Arthur Slutsky

3.50 pm - 4.10 pm

**COFFEE BREAK**

4.10 pm - 6.00 pm

**Posters viewing and discussion time.** See detailed pag. 12

6.00 pm - 8.00 pm

**Reception for all participants**

**Program | September 27**

9.00 am - 9.15 am

**WELCOME**

Laurent Brochard, Leo Heunks, Tommaso Mauri

9.15 am - 9.45 am

**Ventilatory ratio and dead space in ARDS**

Pratik Sinha

**BEST ABSTRACT****Modulation of respiratory muscles activity and drive**

Chairpersons: Alexandre Demoule, Irene Telias

9.45 am - 10.05 am

**Hierarchical clustering of electrical impedance tomography data identifies sub-phenotypes of ARDS with different respiratory drive – EIT-omics**Marco Leali - *Grieco Domenico Luca, Spinelli Elena, Perez Joaquin, Chiavieri Valentina, Rosà Tommaso, Ferrara Pierluigi, Scaramuzzo Gaetano, Antonelli Massimo, Spadaro Savino, Grasselli Giacomo, Mauri Tommaso*

10.05 am - 10.25 am

**Monitoring diaphragmatic effort during phrenic nerve stimulation based on changes in airway pressure-time product**Andrea Castellví-Font - *Morris Idunn S, Madorno Matías, Bellissimo Catherine A, Thakkar Viral, Mehta Nawzer, Bassi Thiago, Goligher Ewan C*

10.25 am - 10.45 am

**Ultrasound guided transcutaneous phrenic nerve stimulation in critically ill patients: A new method to evaluate diaphragmatic function**Mathieu Capdevila - *De Jong Audrey, Belafia Fouad, Vonarb Aurelie, Carr Julie, Molinari Nicolas, Choquet Olivier, Capdevila Xavier, Jaber Samir*

10.45 am - 11.05 am

**Longitudinal assessment of accessory muscle activity and coordination after traumatic spine injury: The ACCESSIT study**Annia Schreiber - *Vieira Fernando, Rodrigues Antenor, Madotto Fabiana, Ko Matt, Phoophiboon Vorakamol, Mcfarlan Amanda, Brault Clément, Subirà Carles, Brochard Laurent*

2<sup>nd</sup>

# PLUG Physiology Symposium

27  
Fri  
September



## Program | September 27



11.05 am - 11.30 am

### COFFEE BREAK

11.30 am - 11.50 am

### **Effect of sedation on respiratory drive and effort in patients with acute hypoxic respiratory failure during the early stages of pressure support ventilation**

Michele Bertoni - *Nodari Davide, Renzetti Stefano, Giovanazzi Stefano, Falappi Michele, Persico Lisa, Ortola Carlos Ferrando, Spadaro Savino, Latronico Nicola, Piva Simone*

11.50 am - 12.10 pm

### **Airway occlusion pressure measured non-invasively during continuous positive airway pressure is sensitive to elevated respiratory load and effort**

Georgiana Roman-Sarita - *Bassi Thiago, Dianti Jose, Ferreyro Bruno, Fard Samira, Ferguson Niall, Goligher Ewan*

12.10 pm - 12.30 pm

### **The effect of high-flow nasal oxygen on respiratory effort in the post-extubation phase - a randomized clinical trial**

Thijs Janssen - *Weller Dolf, Luppens Niki, Den Uil Corstiaan, Jonkman Annemijn, Heunks Leo, Evert-Jan Wils, Endeman Henrik*

12.30 pm - 1.00 pm

### **Exosomes and lungs cross-talk**

Simon Robson

1.00 pm - 2.00 pm

### **LUNCH**

2.00 pm - 2.30 pm

### **Dangers of spontaneous breathing in ARDS**

Takeshi Yoshida

2<sup>nd</sup>

# PLUG Physiology Symposium

27  
Fri  
September



Program | September 27



## BEST ABSTRACT

### Quantification of respiratory effort and drive

Chairpersons: Ewan Goligher, Liu Ling

2.30 pm - 2.50 pm

### A physiological model to estimate breath-by-breath patient's inspiratory effort during pressure support ventilation

Mattia Docci - Vieira Fernando, Bellani Giacomo, Brochard Laurent

2.50 pm - 3.10 pm

### Magnitude and pattern of breathing effort after cardiac surgery. Results of the EFFORT study

Alice Grassi - Castellvi-Font Andrea, Junhasavasdikul Detajin, Sklar Micheal, Grieco Domenico L, Dres Martin, Piraino Thomas, Pham Tai, Melo Luana, Mellado-Artigas Ricardo, Mazer David, Goligher Ewan C, Brochard Laurent, Telias Irene

3.10 pm - 3.30 pm

### Switching from controlled to assisted mechanical ventilation: A multi-center retrospective study

Jim Smit - Van Bommel Jasper, Gommers Diederik, Reinders Marcel, Van Genderen Michel, Krijthe Jesse, Jonkman Annemijn

3.30 pm - 3.50 pm

### An index combining tidal volume and oxygenation to predict outcome of nasal high-flow therapy

Chen Dongyu - Xueyan Yuan, Yali Chao, Jianfeng Xie, Yingzi Huang, Songqiao Liu, Haibo Qiu, Yi Yang, Ling Liu,

3.50 pm - 4.10 pm

### COFFEE BREAK

**Program | September 27****BEST ABSTRACT****Respiratory physiology in specific settings**

Chairpersons: Glasiele Alcala, Oriol Roca

4.10 pm - 4.30 pm

**Ventilation heterogeneity and artificially-induced PEEP in acute respiratory failure patients**

Camilla Zilianti - Kyriakoudi Anna, Potamianou Efstathia, Karakatsanis Charalampos, Rovina Nikoletta, Koutsoukou Antonia, Pecchiarri Matteo

4.30 pm - 4.50 pm

**Lung recruitment influences intracranial compliance and autoregulation in mechanically ventilated brain-injured patients. A prospective, observational pilot study based on chest electrical impedance tomography**

Gaetano Perchiazzi - Bencze Reka, Kawati Rafael, Hånell Anders, Engquist Henrik, Freden Filip, Pellegrini Mariangela

4.50 pm - 5.10 pm

**The association between temporal regional ventilation delay monitored by electrical impedance tomography and tidal recruitment detected by four-dimensional CT during low tidal ventilation**

Atsuko Shono - Shinshu Katayama, Ken Tonai, Masamitsu Sanui

5.10 pm - 5.30 pm

**iNO therapy is associated with lower mortality amongst ventilated pediatric patients with moderate to severe hypoxemia when alveolar dead space fraction is high**

Anoopindar Bhalla - Khemani Robinder, Newth Christopher

5.30 pm - 6.00 pm

**Biomarkers of VILI**

Claudia Dos Santos

**Program | September 28**

9.00 am - 9.15 am

**WELCOME**

9.15 am - 11.45 am

**Interactive discussion for position paper on commercial ventilators settings and measures**

Chairpersons: Glasiele Alcala, Elias Baedorf-Kassis, Ewan Goligher, Leo Heunks

- Automated asynchronies detection
- Respiratory effort
- Closed loop ventilation
- Recruitability
- Transpulmonary pressure

11.45 am - 12.30 pm

**Update on Plug activities and studies**

Chairpersons: Laurent Brochard, Leo Heunks, Tommaso Mauri

- **RECRUIT:** Enrolment status, planned analysis and first publication on the full dataset, proposals for new additional analyses  
Glasiele Alcala, Annemijn Jonkman
- **BEARDS and Pmus:** Publications in progress, planned analysis for the main publication, proposals for new additional analyses  
Matias Madorno, Irene Telias
- **SIGH:** Publications in progress, proposals for new additional analyses, plans for a novel RCT with endpoint mortality  
Emanuele Rezoagli, Elena Spinelli
- **Last Year Meeting:** Status of the manuscript and plans for collaboration with Chest Crit Care  
Irene Telias



4.10 - 4.45 pm

*Authors are requested to be at their assigned monitors for the period of time specified. During this time authors should be available for discussion of the E-Poster.*

Chairpersons: M. Amato, G. Perchiazzi

- 1 The response of regional ventilation to prone position in patients with acute respiratory distress syndrome and severe obesity**  
**Presenter:** Timothy Gaulton  
Gaulton Timothy, Cereda Maurizio, Berra Lorenzo, De Santis Santiago Roberta, César Araújo Morais Caio, Britto Passos Amato Marcelo
- 2 Time-varying intensity of ventilatory efficiency and mortality in patients with acute respiratory distress syndrome**  
**Presenter:** Yuan Xueyan  
Jiang Lianlian, Chen Hui, Chang Wei, Sun Qin, Yuan Xueyan, Wu Zongsheng Xie Jianfeng, Liu Ling, Yang Yi
- 3 Feasibility of continuous beside assessment of ventilation and perfusion with EIT**  
**Presenter:** Tzu-Jen Kao  
Kao Tzu-Jen, Licho Robert, Davenport David
- 4 Continuous estimation of quasi-static compliance of respiratory system under pressure-control ventilation**  
**Presenter:** Ge Huiqing  
Huiqing Ge, Qing Pan
- 5 The P1-P2 decay and the risk of ventilator-induced lung injury: A multicenter prospective observational study**  
**Presenter:** Mara Bassi  
Pettenuzzo Tommaso, Bassi Mara, Boscolo Annalisa, Sella Nicolò, Zarantonello Francesco, Geraldini Federico, De Cassai Alessandro, Munari Marina, Biuzzi Cesare, Spadaro Savino, Scolletta Sabino, Navalesi Paolo
- 6 Differential evolution of inspiratory, expiratory, and limb muscle mass and function during mechanical ventilation**  
**Presenter:** Catherine Bellissimo  
Bellissimo Catherine, Bootjemjai Paweenuch, Roman-Sarita Georgiana, Morris Idunn, Bassi Thiago, Goligher Ewan
- 7 The Focal CT score: An objective analysis tool for grading of focal lung injury. A preliminary analysis**  
**Presenter:** Martin Tovedal  
Tovedal Martin, Pellegrinini Mariangela, Perchiazzi Gaetano, Lipcsey Miklós, Covaci Lucian, Kawati Rafael, Bjarnadóttir Kristin Jóna, Von Seth Magnus

Chairpersons: T. Mauri, I. Telias

- 8 Differential risk of overdistension across racial and ethnic groups during intraoperative mechanical ventilation**  
**Presenter:** Max Hentges  
Hentges Max, Redaelli Simone, Von Wedel Dario, Wachtendorf Luca, Santer Peter, Paschold Bela-Simon, Kaiser Lars, Munoz-Acuna Ricardo, Tenge Theresa, Chen Guanqing, Baedorf-Kassis Elias, Schaefer Maximilian
- 9 Performances of surface mechanomyography using a parasternal patch to detect inspiratory effort: Preliminary results**  
**Presenter:** Arnaud Lesimple  
M. Lebret, A. Lesimple, M. Carpentier, M. Lefranc, A. Vuillermoz, A. Mercat, JC Richard, F. Beloncle
- 10 Agreement of electrical impedance tomography-guided best PEEP determination with decremental PEEP trial**  
**Presenter:** Lisa-Marie Wichelhaus  
Wichelhaus Lisa-Marie, Redaelli Simone, Munoz Ricardo, Suleiman Aiman, Wachtendorf Luca J, Tenge Theresa, Paschold Bela-Simon, Baedorf-Kassis Elias, Talmor Daniel, Schaefer Maximilian S
- 11 Stress relaxation of airway pressure as a biomarker of regional driving pressure imbalances during passive mechanical ventilation**  
**Presenter:** Mattia Doccì  
Doccì Mattia, Vieira Fernando, Menga Luca, Sousa Mayson, Brochard Laurent
- 12 Predicting experimental ventilator-induced lung injury using ventilator waveform features**  
**Presenter:** Elizabeth Kaye  
Kaye Elizabeth, Sosa Alexander, Warner Katharine, Albers David, Sottile Peter, Smith Bradford
- 13 Validation of alternative methods to optimize esophageal balloon filling volume**  
**Presenter:** Glasiele Alcalá  
Alcalá Glasiele, Marcus Victor, Hatus Wanderley, Ana Cardoso, Tilo Winkler, Mauricio Cereda, Yi Xin, Eduardo Costa, Daniel Talmor, Elias Baedorf-Kassis, Lorenzo Berra, Marcelo Amato,



4.50 - 5.25 pm

*Authors are requested to be at their assigned monitors for the period of time specified. During this time authors should be available for discussion of the E-Poster.*

Chairpersons: L. Brochard, A. Schreiber

- 1 Gas composition and pressure in the hypopharynx during high-flow oxygen therapy through nasal cannula (HFNC) in healthy volunteers with different respiratory pattern: A physiological study**

**Presenter:** Andrey Yaroshetskiy

Yaroshetskiy Andrey, Krasnoshchekova Anna, Tkachenko Fedor, Rubashchenko Alina, Merzhoeva Zamira, Avdeev Sergey

- 2 Partitioning of respiratory compliance and work of breathing**

**Presenter:** Candela Serra Sánchez

Serra Sánchez Candela, Tejero Pedregosa Armando, Parra Morais Laura, Sanmartino Gonzalez Carolina, Berenguer Rodríguez Miguel, Jerez Sánchez Ricardo, Márquez García Antonia, Ochoa Sangrador Carlos, Tarancón Maján Concepción, Marcos Gutierrez Alfredo, López Pérez Ana Belén, Cortés Díaz Silvia, Beltrán Martínez Laura, Monge Donaire Diana

- 3 Machine learning models can interpret ventilator waveforms to predict work of breathing**

**Presenter:** Benjamin Yoon

Yoon Benjamin, Obeso Ishmael, Aczon Melissa, Ledbetter David, Rubel Boris, Bennett Tellen, Khemani Robinder, Wetzel Randall

- 4 Comparison of two methods for Pendelluft estimation of trigger breaths in ARDS patient**

**Presenter:** Sheng-Huan Wei

Wei Sheng-Huan, Wang Sheng-Yuan, Chen Chang-Wen

- 5 Monitoring respiratory effort during invasive mechanical ventilation: An international survey of current practice.** **Presenter:** Idunn Morris Morris Idunn, Telias Irene, Bihari Shailesh, Hodgson Carol, Serpaneto Ary, Saxena Manoj, Brochard Laurent, Goligher Ewan

- 6 PEEPtot-Pes guides individualized PEEP titration with noninvasive ventilation in patients with AECOPD.** **Presenter:** Ge Huiqing Huiqing Ge, Liuqing Jiang

- 7 Is spontaneous breathing trial an accurate tool to predict post extubation effort to breathe?**

**Presenter:** Mathieu Capdevila

Capdevila Mathieu, De Jong Audrey, Aarab Yassir, Vonarb Aurelie, Carr Julie, Molinari Nicolas, Capdevila Xavier, Jaber Samir

Chairpersons: A. Grassi, L. Heunks

- 8 Machine learning models could help clinicians predict which patients will fail non-invasive ventilation prior to its initiation**

**Presenter:** Declan G. Bates

Yu Hang, Weaver Liam, Saffaran Sina, Tonelli Roberto, Laffey John G., Camporota Luigi, Scott Timothy E., Zhang Qingchen, Hardman Jonathan G., Clinì Enrico, Bates Declan G.

- 9 Sigh in physiological predefined subgroups of patients with acute hypoxemic respiratory failure and ARDS - A secondary analysis of the PROTECTION pilot randomized clinical trial**

**Presenter:** Emanuele Rezoagli

Rezoagli Emanuele, Fornari Carla, Fumagalli Roberto, Grasselli Giacomo, Volta Carlo Alberto, Navalesi Paolo, Knaefl Rihard, Brochard Laurent, Pesenti Antonio, Mauri Tommaso, Foti Giuseppe

- 10 Relationship between lung elastography-measured regional pleural strain and tidal volume in healthy volunteers**

**Presenter:** Sam Sedighi

Sedighi Sam, Chraïbi Sarah, Roy Cardinal Marie-Hélène, Cloutier Guy, Girard Martin

- 11 Weaning nasal high flow from hypoxemic patients with a protocolized daily flow-reduction trail: A pilot study**

**Presenter:** Zhe Li

Li Zhe, Dai Simin, Qin Shaojie, Zhu Yibo, Zhao Zhanqi, Gao Yuan

- 12 Impact of the SpO<sub>2</sub> target and different pulse oximeters on the oxygen flow rates used in patients in acute respiratory distress**

**Presenter:** Francois Lellouche

Lellouche Francois, Bouchard Pierre-Alexandre

- 13 Feasibility of delivering a 5-day normobaric hypoxia breathing in healthy volunteers in a hospital setting.** **Presenter:** Medeiros Kyle

Lorenzo Berra, M.D.1, 2\*, Kyle J. Medeiros, B.S.1\*, Francesco Marrazzo, M.D.1,2, Sarvagna Patel, M.D.1, 2, David Imber, M.D.1, 2, Emanuele Rezoagli, M.D., Ph.D.1, 2, Binglan Yu, Ph.D.1, Abraham Sonny, M.D.1, 2, Edward A. Bittner, M.D. Ph.D.1, 2, Daniel Fisher, R.T.3, Daniel Chipman R.T.3, Rohit Sharma, M.D., Ph.D.2, 4, 5, Hardik Shah, M.S.2,4,5,6, Brianna E. Gray, M.S., RDN7, N. Stuart Harris, M.D.,2,8 Fumito Ichinose, M.D., Ph.D.1, 2, Vamsi Mootha, M.D.2, 4, 5



5.30 - 6.00 pm

*Authors are requested to be at their assigned monitors for the period of time specified. During this time authors should be available for discussion of the E-Poster.*

Chairpersons: G. Alcala, D. Talmor

- 1 Intermittent breathing of 300 parts-per million nitric oxide (iNO300) reduces *Pseudomonas aeruginosa* lung colonization in a swine model of pneumonia. **Presenter:** Binglan Yu  
Yu Binglan, Winterton Dario, Buehl Talisa, Cenci Stefano, Okda Mohamed, Medeiros Kyle, Ekkapat Gamommas, Bruno Giovanni, Santiago Roberta, Wenderley Hatus, Giannattasio Valentina, Nova Alice, Mietta Cristina, Spina Stefano, Saafei Bijan, Delaney Mary, Carroll Ryan, Ichinose Fumito, Shih Angela, Bry Lynn, Berra Lorenzo
- 2 Effect of PEEP on thorax and diaphragm geometry in mechanically ventilated mice and rats  
**Presenter:** Wout Claassen  
Claassen Wout, Wennen Myrte, Alles Lindy, Coolen Bram, Strijkers Gustav, Heunks Leo, Ottenheijm Coen
- 3 Use and implementation of advanced respiratory monitoring with esophageal pressure and electrical impedance tomography:  
**Results of a survey**  
**Presenter:** Jantine Wisse  
Wisse Jantine, Perchiazzi Gaetano, Somhorst Peter, Ista Erwin, Scaramuzzo Gaetano, Jonkman Annemijn
- 4 Comparison of a solid-state versus balloon esophageal catheter for estimation of pleural pressure  
**Presenter:** Annemijn Jonkman  
Van Oosten Julien, Goedendorp Nico, Flink Rutger, Schaart Rik, Heunks Leo, Jonkman Annemijn
- 5 An international factorial vignette-based survey of intubation decisions in acute hypoxicemic respiratory failure. **Presenter:** Christopher Yarnell Yarnell Christopher, Paranthaman Arvij, Reardon Peter, Angriman Federico, Bassi Thiago, Bellani Giacomo, Brochard Laurent, De Groot Harm Jan, Dragoi Laura, Gaus Syafuddin, Glover Paul, Goligher Ewan, Lewis Kimberley, Li Baoli, Kareemi Hashim, Tirupakuzhi Vijayaraghavan Bharath Kumar, Mehta Sangeeta, Julie Moore, Morris Idunn, Mellado-Artigas Ricard, Roman-Sarita Georgiana, Pham Tai, Sereyoytin Jariya, Tomlinson George, Wozniak Hannah, Yoshida Takeshi, Fowler Rob
- 6 Lung superimposed pressure and its associations with clinical parameters in pediatric ARDS (pARDS)  
**Presenter:** Lorenzo Ball  
Giardina Alberto, Maxenti Matilde, Damasio Maria Beatrice, Moscatelli Andrea, Ball Lorenzo
- 7 Trans-ECMO thermodilution to measure recirculation during veno-venous extracorporeal membrane oxygenation: An experimental animal study. **Presenter:** Mattia Busana  
Busana Mattia, Lazzari Stefano, Wassong Jona, Gattinoni Luciano, Moerer Onnen

Chairpersons: E. Baedorf Kassis, A. Jonkman

- 8 Pendelluft physiology and pulmonary perfusion in unrepaired congenital diaphragmatic hernia is detectable with electrical impedance tomography  
**Presenter:** Jessica Shui  
Shui Jessica, Victor Junior Marcus, Lavita Carolyn, Lerou Paul, Berra Lorenzo
- 9 The ratio of lung elastance to respiratory system elastance in pediatric ARDS (PARDS) has minimal age dependence. **Presenter:** Yukie Ito  
Ito Yukie, Vedrenne-Cloquet Meryl, Hotz Justin, Kyogoku Miyako, Takeuchi Muneyuki, Bhalla Anoopindar, Newth Christopher, Khemani Robiner
- 10 Brief report: PEEP can affect the eccentric workload of the diaphragm. A new ultrasound evaluation method  
**Presenter:** Juan Martín Nuñez Silveira  
Nuñez Silveira Juan Martín, Gallardo Adrian, Ríos Fernando, Perchiazzi Gaetano
- 11 Hygrometric performance of >100 heat and moisture exchangers and filters - comparison of psychrometric method and manufacturers' data  
**Presenter:** Francois Lellouche  
Lellouche Francois, Bouchard Pierre-Alexandre, Cyr Laura-Ann, Lefebvre Jean-Claude, Branson Richard
- 12 Assessment of pulmonary perfusion in pediatric acute hypoxic respiratory failure using electrical impedance tomography. **Presenter:** Giovanni Bruno Bruno Giovanni, Alcalá Glasiele Cristina, Victor Marcus, Blanchette Alex, Berra Lorenzo, Carroll Ryan
- 13 Differential effects of mechanical power on mortality among male and female critically ill patients. **Presenter:** Wichelhaus Lisa-Marie Von Wedel Dario, Redaelli Simone, Shay Denys, Fosset Maxime, Hentges Max, Wachtendorf Luca J, Seibold Eva-Lotte, Suleiman Aiman, Chen Guanqing, Novack Lena, Costa Eduardo L, Amato Marcelo B P, Jung Boris, Talmor Daniel, Baedorf-Kassis Elias N, Schaefer Maximilian S
- 14 Do tidal volumes standardized to predicted body weight adequately account for differences in functional lung sizes of female versus male mechanically ventilated patients?  
**Presenter:** Wichelhaus Lisa-Marie Von Wedel Dario, Redaelli Simone, Fosset Maxime, Wachtendorf Luca J, Seibold Eva-Lotte, Shay Denys, Hentges Max, Chen Guanqing, Suleiman Aiman, Talmor Daniel, Costa Eduardo, Jung Boris, Amato Marcelo B P, Baedorf-Kassis Elias N, Schaefer Maximilian S

2<sup>nd</sup>

# PLUG Physiology Symposium



## General information



### Meeting venue

#### Joseph B. Martin

#### Conference Center

77 Avenue Louis Pasteur  
Boston, MA 02115 (USA)



### Organizing secretariat

#### Start Promotion Srl

Via Soperga, 10 - 20127 Milano (I)

Phone: + 39 02 67071383

E-mail: info@startpromotion.it



2<sup>nd</sup> PLUG Physiology Symposium has been submitted on **EthicalMedTech - CVS** that confirming as Compliant.



2<sup>nd</sup> Plug Physiology Symposium has been approved by **CRCE for 18 credits**

### Official languages

English, no simultaneous translation.

### Call for abstract

Abstracts deadline expired  
**April 30, 2024.**

**IMPORTANT:** At least one of the Authors is required to be a registered participant to the event. Registration should be submitted online before **September 16, 2024.**

### Registration information

Admission to the Symposium is limited with mandatory pre-registration.

### Online registration

Registrations should be done online at: [www.startpromotion.it](http://www.startpromotion.it)



Please read the instructions carefully before starting your registration.



### General information



#### Registration fees

<b>Physician</b>	€ 250.00
<b>Trainee, Nurse, AHP</b>	€ 100.00
<b>Low, middle income countries *</b>	€ 100.00
<b>Single day registration - Sept. 26<sup>th</sup></b>	€ 50.00
<b>Exhibitor/Companies employee</b>	€ 350.00

In person meeting only, no online connection provided.

\* Please check your country COL (cost of living)

Afghanistan, Angola, Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Comoros, Congo, Dem. Rep Congo, Rep. Côte d'Ivoire, Djibouti, Egypt, Arab Rep., Eritrea, Eswatini, Ethiopia, Gambia, The Ghana, Guinea, Guinea-Bissau, Haiti, Honduras, India, Jordan, Kenya, Kiribati, Korea, Dem. People's Rep., Kyrgyz Republic, Lao PDR, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Micronesia, Fed. Sts. Morocco, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Philippines, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sri Lanka, Sudan, Syrian Arab Republic, Tajikistan, Tanzania, Timor-Leste, Togo, Tunisia, Uganda, Uzbekistan, Vanuatu, Vietnam, West Bank and Gaza, Yemen, Rep., Zambia, Zimbabwe.

[more info](#)



#### Registration fees will include:

- Access to the Scientific Sessions and the exhibition area
- Catering services included in the program
- Name badge
- Meeting bag
- Attendance certificate

**Online pre-registrations should be submitted before September 16<sup>th</sup>.**

Later registrations are possible onsite with only payment by credit card, (no cash, no American express accepted).

The meeting bag is guaranteed only to pre-registered participants.



## General information



### instructions for payment

Payment of the registration fees can be made as follows:

#### **Bank transfer**

(free of charge for the beneficiary)

**TO:** Start Promotion S.r.l.

**BANK:** Banca Intesa San Paolo S.p.a.

**IBAN:** IT21X0306911310000027269163

**SWIFT/BIC CODE:** BCITITMM

**As payment description please enter:**

2<sup>nd</sup> Plug 2024, first & family name of the Registrant.

#### **Credit Card**

(Visa, Mastercard, Maestro, Moneta)

### On-site secretariat

The Secretariat will be available on-site from 8.00 a.m. of Thursday September 26 to the closing of scientific sessions.

The registration will start according to the following opening hours:

#### **Thursday September 26**

8.00 am - 7.30 pm

#### **Friday September 27**

8.00 am - 6.00 pm

#### **Saturday September 28**

8.00 am - 12.30 pm

### Catering services

Coffee Point and Lunches are located on the second floor of the meeting venue.

**Hotel****Hotel suggestion with reduced fee**

First come first served.



- ① **The Inn at Longwood Medical \*\*\***  
400 mt from congress venue  
Room Rate: **\$289**

Booking Code: **BIAN0924**

**Book here your room**

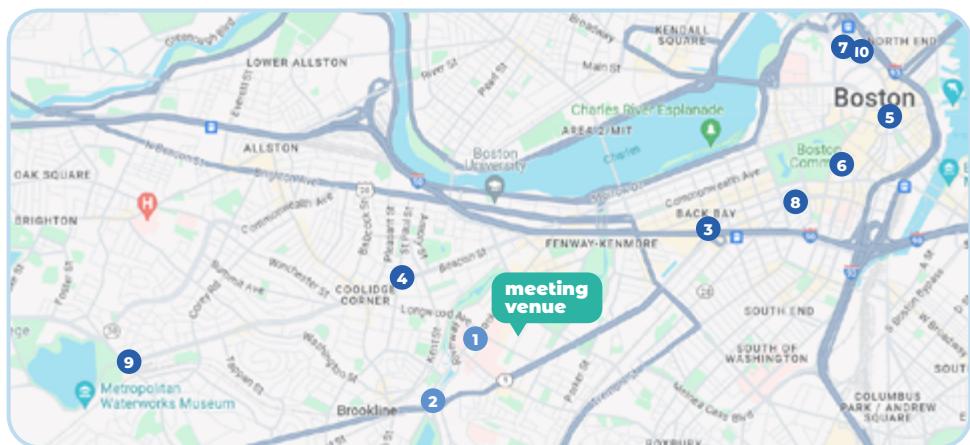


- ② **Hilton Garden Inn Boston/Brookline \*\*\***  
1.4 km from congress venue  
Room Rate: **\$389** with breakfast included

Booking Code: **PLUG Meeting**

**Hotel****Hotel suggestions**

Please make sure to reserve your accommodation accordingly.



- 3 The Westin Copley Place, Boston \*\*\*\***  
15 minutes by public transport
- 4 The Arcadian Powered by Sonder \*\*\***  
17 minutes by public transport
- 5 Hyatt Centric Faneuil Hall Boston \*\*\***  
20 minutes by public transport
- 6 The Godfrey Hotel Boston \*\*\***  
25 minutes by public transport

- 7 Indigo Boston Garden \*\*\***  
25 minutes by public transport
- 8 Revere Hotel Boston Common \*\*\***  
28 minutes by public transport
- 9 AC Hotel By Marriott Boston Cleveland Circle 3 \*\*\***  
28 minutes by public transport
- 10 Citizen-M Boston North Station \*\*\***  
26 minutes by public transport

2<sup>nd</sup>

# PLUG Physiology Symposium



## Acknowledgements



We are grateful to the following Companies for their contribution to the success of the 2<sup>nd</sup> Plug Physiology Symposium Meeting.

# LÖWENSTEIN medical



The background of the poster features a wide-angle aerial photograph of Barcelona, Spain, during sunset. The city's dense grid of buildings is bathed in warm orange and yellow light. In the center, the Sagrada Família cathedral stands prominently with its tall spires and intricate facade. The sky above is a deep blue, and the overall atmosphere is one of a vibrant, international city.

*See you at*

**3<sup>rd</sup> PLUG Physiology Symposium**

Barcelona, 18-19-20 September 2025

the PLVG

[www.pluginwggroup.org](http://www.pluginwggroup.org)