Curriculum Vitae – Emanuele Rezoagli, MD, PhD

Clinical Appointment

09/2022-today	*Anaesthesia and Intensive Care Unit Attending Physician* Department of Anaesthesia and Intensive Care Medicine – San Gerardo Hospital, Monza, Italy (Clinical Director: Prof. Giuseppe Foti)
09/2019-08/2022	*Anaesthesia and Intensive Care Unit Attending Physician* Department of Anaesthesia and Intensive Care Medicine – Policlinico San Marco, Gruppo Ospedaliero San Donato, Zingonia, Bergamo, Italy (Clinical Director: Dr. Giovanni Vitale)
11/2020-02/2021	*Intensive Care Unit Attending Physician for the pandemic COVID-19 emergency* Department of Anaesthesia and Intensive Care Medicine – San Gerardo Hospital, Monza, Italy (Clinical Director: Prof. Giuseppe Foti)
03/2020-06/2020	*Intensive Care Unit Attending Physician for the pandemic COVID-19 emergency* Department of Anaesthesia and Intensive Care Medicine – San Gerardo Hospital, Monza, Italy (Clinical Director: Prof. Giuseppe Foti)
02/2020-06/2020	*Intensive Care Unit Attending Physician for the pandemic COVID-19 emergency* Department of Anaesthesia and Intensive Care Medicine – Policlinico San Marco, Gruppo Ospedaliero San Donato, Zingonia, Bergamo, Italy (Clinical Director: Dr. Giovanni Vitale)
04/2018-07/2019	*Anaesthesia and Intensive Care Unit Attending Physician* Department of Anaesthesia and Intensive Care Medicine – Galway University Hospitals, National University of Ireland Galway, Galway, Ireland (Chair: Prof. John G. Laffey; Medical Director: Dr. Patrick Neligan)

Honorary Position

09/2019-08/2022	*Honorary Visiting Research Fellow – 3-year contract* Bioscience Research Institute, Athlone Institute of Technology, Athlone, Ireland Athlone Institute of Technology (AIT) – Athlone, Ireland (Chair: Prof. Rowan)

Assistant Professorship

09/2022-today	*Assistant Professor Position (Ricercatore a Tempo Determinato di tipo A)* School of Medicine and Surgery, SC 06/L1Anestesiologia, SSD MED/41, University of Milano-Bicocca (Chair: Prof. Roberto Fumagalli; Supervisor: Prof. Giacomo Bellani)

Postdoctoral Research Fellow

04/2019-08/2022 — *Postdoctoral Research Fellow – Assegno di ricerca A2*
Department of Medicine and Surgery – MED/41 - University of Milano-Bicocca, Milan, Italy (Chair: Prof. Roberto Fumagalli; Supervisor: Prof. Giacomo Bellani)

Ph.D. Program in Translational and Molecular Medicine – DIMET

11/2016-02/2020 — *Ph.D. student and Ph.D. candidate*
Department of Anesthesia, Critical Care, and Pain Medicine – University of Milano-Bicocca, Milan, Italy (Director: Prof. Andrea Biondi; Supervisor: Prof. Giacomo Bellani)

09/2017-08/2019 — *Visiting Ph.D. Researcher*
Academic Staff Temporary Researcher, Lung Biology Group, Regenerative Medicine Institute at CURAM Centre for Medical Devices, School of Medicine, National University of Ireland Galway, Galway, Ireland
(Chair: Prof. John G. Laffey)

Postdoctoral Residency Program

6/2012-7/2017 — *Anesthesiologist and Intensivist*
Specialistic Degree in Anesthesia, Critical Care and Pain Medicine (Final grade: 70/70, *with honors*). Thesis: Pulmonary and systemic vascular resistances after cardiopulmonary bypass: role of hemolysis (Advisors: Prof. R. Fumagalli, and Prof. Giacomo Bellani) – Published in 2017 in the Journal of Cardiothoracic and Vascular Anesthesia, PMID:27590461
University of Milano-Bicocca Monza (MB), Italy

Postdoctoral Research Fellowship

10/2014-11/2016 — *Postdoctoral clinical research fellowship*
Anesthesia Center for Critical Care Research, Department of Anesthesia, Critical Care and Pain Medicine Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA (Director Prof. Warren M. Zapol; Tutor Prof. Lorenzo Berra)
Investigator in
1. clinical research projects (i.e. effects of nitric oxide in the prevention of hemolysis induced acute kidney injury in cardiac surgery patients) and
2. preclinical studies (i.e. ventilator associated pneumonia).
Collaborator in
1. preclinical studies (i.e. haptoglobin as a treatment against adverse effects due to hemolysis in murine models of endothelial dysfunction; and effect of hypoxia on functional neurological outcome in a murine model of mitochondrial disease)

Appointments at Hospitals/Affiliated Institutions during the clinical training

1/2017-7/2017 — *Senior resident*
Department of Cardio-Thoracic Intensive Care Unit (Director: Dr. Maria Pia Gagliardone)
University of Milano-Bicocca, Niguarda Hospital, Milano (MI), Italy
Clinical rotation in the operating rooms of Cardio-Thoracic and Vascular Surgery and in Cardio-Thoracic Intensive Care Unit (ICU)

12/2016 — *Senior resident*
Department of Obstetrics & Gynecology (Chair: Prof. Roberto Fumagalli)

	University of Milano-Bicocca, Niguarda Hospital, Milano (MI), Italy Clinical rotation in the operating rooms of Obstetrics & Gynecology
10/2014-11/2016	*Postdoctoral clinical research fellow* Anesthesia Center for Critical Care Research, Department of Anesthesia, Critical Care and Pain Medicine Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA (Director: Prof. Warren M. Zapol)
7/2014-10/2014	*Staff resident* Department of Neuro-Intensive Care Unit (Chair: Prof. Roberto Fumagalli) University of Milano-Bicocca, Niguarda Hospital, Milano (MI), Italy Clinical rotation in Neurosurgery operating rooms and in NeuroICU
1/2014-6/2014	*Staff resident* Department of Perioperative Medicine and Intensive Care, General Intensive Care Unit (Chair Prof. Antonio Pesenti) University of Milano-Bicocca, San Gerardo Hospital, Monza (MB), Italy Clinical rotation in Medical and Postoperative (General Surgery) ICU
7/2013-12/2013	*Staff resident* Department of Perioperative Medicine and Intensive Care, General Intensive Care Unit (Chair Prof. Roberto Fumagalli) University of Milano-Bicocca, Niguarda Hospital, Milano (MI), Italy Clinical rotation in Medical and Postoperative (General Surgery) ICU Clinical rotation in Burns unit
7/2012-6/2013	*Staff resident* Department of Perioperative Medicine and Intensive Care, Anesthesia Division (Chair: Prof. Roberto Fumagalli) University of Milano-Bicocca, San Gerardo Hospital, Monza (MB), Italy Clinical rotation in Operating Rooms (1-year rotation in different surgical theaters: Abdominal, Urologic, Orthopedic, Emergency, Maxillofacial, Otorinolaringoiatric, Plastic, Endocrine, Oncologic)
7/2010-6/2012	*Medical doctor – clinical research internship* Department of Perioperative Medicine and Intensive Care, Respiratory Physiopathology Research Unit (Director: Prof. Antonio Pesenti) University of Milano-Bicocca at San Gerardo Hospital, Monza (MB), Italy Work in experimental models of veno-venous extracorporeal CO_2 removal and regional anticoagulation by hemodiafiltration techniques
1/2011	Licensing Exam, Primary care training month (Grade: 30/30) Primary Care Physician (Dr. Francesco Baranzini) Local Health Service, Angera (VA), Italy
12/2010	Licensing Exam, Surgery training month (Grade: 30/30) Otorinolaringoiatry (Director: Prof. Paolo Castelnuovo) Circolo Hospital, Varese, Italy
11/2010	Licensing Exam, Internal medicine training month (Grade: 30/30) Clinical Cardiology (Director: Prof. Jeorge S. Uriarte) Circolo Hospital, Varese, Italy
6-2009-7/2010	*Medical student - intern*

Department of Clinical Medicine (Director: Prof. Achille Venco)
Università Insubria, Circolo Hospital, Varese, Italy

Education

9/2004-7/2010	*Medical Doctor* Specialistic Degree in Medicine and Surgery (Final grade: 110/110, *with honors*). Thesis: Clinical history of the cerebral venous thrombosis: a multicentric study (Advisors: Prof. A. Venco, Prof. Walter Ageno, and Prof. Francesco Dentali) - Published in 2013 on Journal Thrombosis and Haemostasis, PMID:22578023

Professional Societies

1/2018-07/2019	Irish Medical Council, Dublin, Ireland – Specialist Registration, Anaesthesia (n. 422490)
3/2011-today	Medical Council of Varese, Italy (n. 07052)

Current Licensure and Certifications

17/04/2023-18/04/2023	Advanced Life Support (ALS) certification, Italian Resuscitation Council (IRC)
29/11/2022-30/11/2022	Certified Instructor of: Basic life support defibrillation (BLSD), Pediatric basic life support defibrillation (PBLSD), Prehospital Trauma Care (PTC)), Corso Unificato Istruttori di Base (GIC Course), Italian Resuscitation Council (IRC)
16/06/2022	Basic life support defibrillation (BLSD) certification, Italian Resuscitation Council (IRC)
04/05/2021–04/05/2030	National Scientific Qualification for Associate Professor / Abilitazione Scientifica Nazionale Professore II Fascia – Settore concorsuale 06/L1 Anestesiologia – Medicina e Chirurgia – MED/41
22/06/2017–24/06/2017	ATLS student Course American College of Surgeons ATLS Italian Regional Faculty, Milan
04/04/2017–07/04/2017	Certificate of attendance of the course "Introduction Medical Statistics" University of Milano-Bicocca, Center of Biostatistics for Clinical Epidemiology, Monza (Italy)
02/2016	Effectively Communicating Research Certification Harvard Catalyst, Harvard Clinical and Translational Science Center, Boston, MA, USA
03/2016 – 05/2016	Successful Grant Writing Strategies Certification Harvard Catalyst, Harvard Clinical and Translational Science Center, Boston, MA, USA
09/2016-11/2016	Fundamentals of Clinical and Translational Research Certification Harvard Catalyst, Harvard Clinical and Translational Science Center, Boston, MA, USA
09/2015 – 07/2016	Yearly Certification in Applied Biostatistics 2015-2016 Harvard Catalyst, Harvard Clinical and Translational Science Center, Boston, MA, USA (140 hours)
09/2015 – 10/2015	Design and Conduct of Clinical Trials 2015 Certification, Massachusetts General Hospital, Boston, MA, USA

3/2013	Catastrophic medical events management certification, AAT 118 Monza - University of Milano-Bicocca
2/2014	Crash course certification – Emergency Medicine, AAT 118 Monza - University of Milano-Bicocca
1/2014	Advanced cardiac life support defibrillation (ACLS) certification, AAT 118 Monza - University of Milano-Bicocca
12/2013	Basic life support defibrillation (BLSD) certification Medical Council of Varese, Italy
	Pediatric advanced life support defibrillation (PALSD) certification, AAT 118 Monza- University of Milano-Bicocca
	Pediatric advanced life support defibrillation (PALSD) certification, AAT 118 Monza - University of Milano-Bicocca
3/2011	Italian Medical Licence, University of Insubria, Varese, Italy Training months (Grade: 90/90); written exams (preclinical test grade: 90/90; clinical test grade: 88.75/90). Final grade: 268.75/270

Selection and Participation to Masterclasses

Data Science - ESICM masterclass, CityCube Berlin, September 29th, 2019

ECMO: From big bang to black holes - powered by NEXT – ESICM masterclass, Palais des Congrès de Paris, October 21st, 2018

ICM research: Everything you need for a cracking start! – ESICM masterclass, Palais des Congrès de Paris, October 20th, 2018

Awards and Awarded Scholarships

Awarded with the cover page of the September 2025 Issue of Medical Gas Research with the narrative review titled: "Oxygen targets in critically ill patients: from pathophysiology to population enrichment strategies"

Awarded as Co-Principal Investigator, TURISE co-financed by the Government of Ireland and European Union through ERDF Southern, Eastern & Midland Regional Programme 2021-27 and the Northern Western Regional Programme 2021-2027. Project titled "Mesenchymal Stem Cell-derived antimicromial peptides for antimicrobial resistance" – in collaboration with the University Hospital Galway - 104000 euro

Awarded as Principal Investigator of the "Grant Starter School – Starting a grant Proposal – Winter School - III edition" (5000 euro), International Brain Research Organization (IBRO), IBRO-PERC Support for Soft Skills Training as University of Milano-Bicocca, November 25th-29th, 2024

Supported by the Lake Como School of Advanced Studies, Fondazione Volta - call 2023 (5000 euro), Organizing Committee of the "Starting a grant proposal: from idea to Practice (GPIP) - II Edition –Villa Grumello, Lake Como, July 22th-26nd, 2024

Awarded as Member of the Organizing Committee of the "GPIP – STARTING A GRANT PROPOSAL - THE VALUE OF INTERDISCIPLINARITY IN GRANT WRITING" (9000 euro), International Brain Research Organization (IBRO), IBRO-PERC Support for Soft Skills Training, University of Milano-Bicocca, October 16th-Octobert 20th, 2023

Collaborator in the awarded grant project "PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE" 2022 titled "Development of ultrafast, wearable, mainstream optical nanostructured instant flux oxygen measurement system for single breath analysis and measurement of lung volumes to optimize ventilation in patients with pulmonary diseaseas." 270000 euro

Supported by the Lake Como School of Advanced Studies - call 2021 (5000 euro), Organizing Committee of the "Starting a Grant proposal: from idea to practice (GPIP)", Villa Grumello, Como, July 18th-22nd, 2022

Awarded as Member of the Organizing Committee of the Grant Starter School "THE VALUE OF INTERDISCIPLINARITY IN GRANT WRITING" (10000 euro), International Brain Research Organization (IBRO), IBRO-PERC Support for Soft Skills Training, University of Milano-Bicocca, November 30th-December 3rd, 2021

Awarded with the Bicocca Starting Grant 2020 (55000 euro) with the project: "Functional Residual Capacity Assessment using a Wash-In/Wash-Out technique based on a fast main-stream O_2 Sensor with nanofluorescenT geometry for severe lung injury (FAST) – COVID and beyond", University of Milano-Bicocca, Monza, Italy.

Awarded with the "Giovani Talenti 2019" award (2000 euro), #2 position for the Section "Medical Sciences and Neuroscience" at the University Milano-Bicocca, Monza, Italy, December 17, 2019.

Awarded with the ESICM NEXT Fellowship Programme – Best Practices in Advanced Haemodynamic Monitoring, supported by Edwards, and promoted by the European Society of Intensive Care Medicine, Rotterdam, (The Netherlands), 22-26 July 2019.

Awarded with the ESICM NEXT Fellowship Programme – Infections in ICU, supported by Bayer, and promoted by the European Society of Intensive Care Medicine, London (United Kingdom), 12-16 November 2018.

Awarded with the ESICM Young Investigator Award 2018 (20000 euro) with the project titled: "Role of the exhaled breath condensate as non-invasive monitoring of the lung inflammation during ARDS: a prospective cohort study".

Awarded with the ESICM NEXT Fellowship Programme - ARDS Management, supported by Medtronic, and promoted by the European Society of Intensive Care Medicine, Rotterdam (The Netherlands), 26-30 March 2018.

Awarded with the National Research Grant 2017 (15000 euro) awarded by the "Societa Italiana di Anestesia Analgesia Rianimazione e Terapia Intensiva – SIAARTI", MSD Italia S.r.l., on behalf of Merck Sharp & Dohme Corporation, entitled: "Exhaled nitric oxide as marker of acute lung injury in mechanically ventilated adult patients with acute respiratory distress syndrome (ARDS)".

Winner team of the First Edition of "SIAARTI Academy" of Italian Society of Anesthesia Analgesia Resuscitation and Intensive Care, 22-26 May, 2017, Lampedusa, Italy – Theoric and Practical course on emergency medicine and on the management of catastrophic medical events

Awarded with the Best abstract award (500 $) at the Massachusetts General Hospital, Boston, at the 14th Celebration of Clinical Research, 2016, Research/Clinical Fellows and Residents category, entitled: "Nitric Oxide (NO) Produced by Plasma Discharge is Equivalent to Cylinder NO in Producing Pulmonary Vasodilation in Chronic Pulmonary Hypertension." Rezoagli E, et al. CONTROL ID: 2599737.

Awarded with the Scholarship titled "Study of electrocardiographic predictors of efficacy of heart ventricular fibrillation and real time guidance of the cardiopulmonary resuscitation maneuvers in extrahospital cardiac arrest victims" (1/2012-4/2012), by the Department of Perioperative Medicine and Intensive Care, Respiratory Physiopathology Research Unit (Director Prof. A. Pesenti, MD) - University of Milano-Bicocca, San Gerardo Hospital, Monza (MB), Italy

Speaker activity

- Chairperson and organizer of the Seminar for the Translational and Molecular Medicine PhD program (DIMET) titled: "Planning and conduction of a clinical study", 17 June, 2025, University of Milano-Bicocca, Monza, Italy
- Invited Faculty, "Principi di ventilazione meccanica" Scuola di Anestesia e Rianimazione, Università di Torino, with the following Lectures:
  - Invited Speaker, "Esiste la best PEEP" (Lecture, 06/11/2025)
  - Invited Speaker, "Supporto non-invasivo nel paziente ipercapnico grave" (Lecture, 07/11/2023)
  - Invited Speaker, "Asincronie: davvero un problema?" (Lecture, 07/11/2023)
  - Invited Speaker, Hands on workshop with Lung Simulation ASL5000: "How to manage mechanical ventilation in COPD and asthma" (06/11/2023)
  - Invited Speaker, Meet the expert workshop: "Diagnostic and therapeutics in the field of non-invaseive and invasive ventilation" (06-07/11/2023)
  - Invited Speaker, hands-on workshop: "Clinical cases of asynchronies by reading ventilator waveforms" (07/11/2023)
- 36° SMART MEETING Allianz MiCo Milano Congressi MAY 7-9, 2025
  - Invited Speaker, Tutorials respiratory pathophysiology, "Oxygen transport and delivery", May 7, 2025
  - Invited Speaker, Simulation session, "Alveolar recruitment and peep setting based on respiratory mechanics", May 7, 2025 – Supported by Draeger
  - Invited Speaker, Friday night admission & monday morning clinical round (with the ICU chief) "Patient with a severe ARDS and Legionella infection Friday night admission", May 7, 2025
  - Invited Speaker, Alternative ventilation strategies & rescue treatments, "Sigh breaths: can they reduce VILI?" May 8, 2025
- Invited Tutor at 2025 VAM Courses – Ventilazione Artificiale Meccanica Invasive e non-Invasiva, May 5-6, "I Fondamentali", Allianz Mico North Wing, Milano:
  - Practical Sessions, Meeting with the Experts: Workshop on Friday night ventilation in ICU – clinical case of ARDS due to Legionella Pneumophila
- Invited Faculty, EuroELSO Congress 23 – 26 April 2025 at the MiCo – Milano Congressi in Milan/Italy, Session "What happens after cannulation in respiratory and cardiac support":
  - Mechanical ventilation of resuscitated patients (CRALE etc.) (23/4/2025)
- Invited Faculty, Moderator, Good Clinical Practice (GCP), Guida alle Sperimentazioni Cliniche, Didattica Trasversale delle Scuole di Specializzazione Medicine dell'Università degli Studi di Milano-Bicocca, Edificio U18, 12/02/2025, 14:00-18:40
- Invited Faculty, 2025 International Workshop on Pulmonary Imaging Feb. 27 - Mar 1, 2025, V Session on "Acute Respiratory Distress Syndrome", Philadelphia, USA
  - Phenotyping and Characterization of Lung Injury by CT Scan Using AI in Spontaneously Breathing Patients with Respiratory Failure (27/2/2025)
- Invited Faculty, Organizer and Scientific Committee of Corso introduttivo di Anestesia Unimib Crash Course 2022, University of Milano-Bicocca, I year of residency, 4,5 and 6 November 2024
  - Theoretical session: Ventilazione intraoperatoria (05/11/2024)
  - Hands-on 4, 5, 6 November 2024 – different workshops including anesthesia monitoring, basic and advance intubation procedures, mechanical ventilation in the theater
- Faculty - Speaker and Instructor at Draeger Masterclasses on mechanical ventilation including Simulation Sessions at University of Milano-Bicocca, Monza Italy and Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy (5 days, 20 hours, 2025)
  - Controlled mechanical ventilation
  - Assisted mechanical ventilation
  - Basics of Electrical Impedance Tomography, mechanical ventilation of patients with Chronic Obsrtuctive Pulmonary Disease, Weaning from Mechanical Ventilation
- Invited Speaker at the European Society of Intensive Care Medicine Fellowship in Acute Kidney Injury in Treno, Santa Chiara Hospital, University of Trento, October 21-25, 2024
  - Organ crosstalk in Critical Care and the role of multiorgan support (October 23rd, 2024)
  - Lung-Kidney crosstalk in the critically ill: insights from the Lung Safe study (October 23rd, 2024)

- Invited Faculty, Advanced Mechanical Ventilation Course: Blended Learning Program 18th Oct 2024, University of Galway Critical Care Group in association with JFICMI and CAI
    - Mechanical Ventilation in Asthma and COPD (Lecture)
    - Pulmonary Monitoring during spontaneous breathing (Workshop)
- Invited Faculty and Scientific Committee, University of Split, School of Medicine, Department of Anesthesiology and Intensive Care Medicine, General Hospital Dubrovnik, with the unconditional support of Draeger, Croatia 11-14 October 2024, with the following lectures and practical sessions:
    - Lecture "Regional ventilation and perfusion" 12 October, 2024
    - Lecture "Assisted ventilatory modes" 12 October, 2024
    - Practical session "Self ventilation" 12 October, 2024
    - Practical session "Recruitment, practical approach, Low-flow P/V loop" 13 October, 2024
    - Lecture "Respiratory monitoring" 14 October 2024
    - Case scenario "Respiratory failure needing veno-venous ECMO" 14 October 2024
    - Practical session "Respiratory monitoring" 14 October 2024
- Invited Speaker, 2nd Plug Physiology Symposium, Discussing research with a taste, Scientific meeting on applied physiology in the critically ill – Boston, USA, 26-28 September 2024
    - Poster presenter "Sigh in physiological predefined subgroups of patients with acute hypoxemic respiratory failure and ARDS - A secondary analysis of the PROTECTION pilot randomized clinical trial" September 26, 2024
    - Speaker, "Update on PLUG activities and studies - SIGH: Publications in progress, proposals for new additional analyses, plans for a novel RCT with endpoint mortality" September 28, 2024
- Chairperson and organizer of the Seminar for the Translational and Molecular Medicine PhD program (DIMET) 12 giugno 2024 titled: "Planning and conduction of a clinical study" 12 June, 2024, University of Milano-Bicocca, Monza, Italy
- Invited Speaker at "Corso di Ventilazione Polmonare", Aula Pavoni VII, Piano DEA, Ravenna, 28 June, 2024
    - Controlled mechanical ventilation
    - Assisted Mechanical Ventilation
    - Mechanical ventilation in COPD
    - Inspiratory efforts, Driving pressure and SIGH in assisted mechanical ventilation
    - Simulation of controlled and assisted modes of mechanical ventilation
- Invited Speaker at SAGE Sicurezza in Anestesia e Gestione delle Emergenza 2024 I edizione – Scenari di Simulazione Avanzata in Situ – 3,4,5 Giugno 2024, Ospedale Niguarda, "La ventilazione protettiva in sala operatoria" 3 Giugno 2024
- 35° SMART MEETING Allianz MiCo Milano Congressi MAY 29-31, 2024:
    - Invited Speaker, Pro-Con Debate – Videolaryngoscopy, CON. 29 May, 2024
    - Invited Speaker, Simulation Session, Mechanical Ventilation, Alveolar Recruitment and PEEP setting based on respiratory mechanics, 29 May, 2024
    - Invited Speaker, Simulation session - Mechanical ventilation, Setting assisted ventilation in the hypoxemic patient, The bright and the dark side (sili) of pressure support – supported by Hamilton
    - Chairperson, Positioning in ARDS, 29 May, 2024
- Invited Faculty, Organizer and Scientific Committee of Corso introduttivo di Soft Skills and communication in ICU, Unimib Crash Course 2024, III year of residency, University of Milano-Bicocca, 7-9 maggio 2024
    - Lo specializzando che fa ricerca (07/05/2024)
- Invited Lecturer, "Acute pancreatitis - a multidisciplinary approach to treatment", Lecture titled: "Intravenous fluid therapy in acute pancreatitis", Čakovec, March 16, 2024 Međimurje Museum - Multimedia Hall
- Faculty - Speaker and Instructor at Draeger Masterclasses on mechanical ventilation including Simulation Sessions at University of Milano-Bicocca, Monza Italy and Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy (5 days, 20 hours, 2024)
    - Controlled mechanical ventilation
    - Assisted mechanical ventilation

    - Basics of Electrical Impedance Tomography, mechanical ventilation of patients with Chronic Obsrtuctive Pulmonary Disease, Weaning from Mechanical Ventilation
- Faculty, Organizer and Scientific Committee of Corso introduttivo di Rianimazione Unimib crash course 2023 – Intensive Care Medicine Crash Course 2022, II year of residency, Bormio, University of Milano-Bicocca (13-17 November 2023)
    - Respiratory mechanics during controlled mechanical ventilation at bedside (13/11/2023)
    - Respiratory mechanics during assisted mechanical ventilation at bedside (13/11/2023)
    - Simulation session: respiratory mechanics during passive ventilation (14/11/2023)
    - Simulation session: respiratory mechanics during passive ventilation (15/11/2023)
- Invited Faculty, "Principi di ventilazione meccanica" Scuola di Anestesia e Rianimazione, Università di Torino, with the following Lectures:
    - ARDS (Workshop, patient assessement immediately after ICU admission, 10/11/2023)
    - Pes and Transpulmonary Pressure (Lecture, 11/11/2023)
    - Best PEEP (Lecture, 11/11/2023)
- Faculty, Organizer and Scientific Committee of Corso introduttivo di Anestesia Unimib Crash Course 2023, University of Milano-Bicocca, I year of residency, 2,3 and 6 Novembre 2023
    - Theoretical session: Ventilazione intraoperatoria (02/11/2023)
    - Hands-on Simulation training: Vie aeree di base IOT base – presidi sovraglottici – frova e buji (03/11/2023)
    - Scenari di anestesia loco-regionale (06/1/2023)
- Invited Faculty, Speaker, at the Ventilab meeting on "Meccanica Respiratoria e Ventilazione Meccanica: dall Fisiologia alla Clinica" at Milano, Sala Convegni Margherita, Hotel Lombardia, Viale Lombardia, 74, on October 27, 2023 with the Lectures:
    - "Limitare il P-SILI"
    - "Stimare lo sforzo inspiratorio"
- Steering Committee, Faculty and Speaker at University of Milano-Bicocca, Edificio U6, "GPIP - Starting a Grant proposal. The value of interdisciplinarity in grant writing", October 16th-20nd, 2023
- Invited Faculty, "Jornadas de Medicina Intensiva do Porto" – 25th JMIP focused on the field of Intensive Care Medicine. 18-19 of October 2023 dedicated to: "Ventilation, Rehabilitation, Intensive Care & Emergency" at Oporto University, Medical Faculty (ICBAS); session on "Mechanical ventilation – Protective Ventilation in Hypoxemic Respiratory Failure",
    - Airway Closure under Mechanical Ventilation (Lecture)
- Invited Faculty and Scientific Committee, University of Split, School of Medicine, Department of Anesthesiology and Intensive Care Medicine, General Hospital Dubrovnik, with the unconditional support of Draeger, Croatia 13-16 October 2023, with the following lectures and practical sessions:
    - Lecture "Regional ventilation and perfusion" 14 October, 2023
    - Lecture "Assisted ventilatory modes" 14 October, 2023
    - Practical session "Self ventilation" 14 October, 2023
    - Practical session "Recruitment, practical approach, Low-flow P/V loop" 15 October, 2023
    - Practical session "Case scenarios" 15 October, 2023
    - Lecture "COVID related topic" 16 October 2023
    - Practical session "Respiratory monitoring" 16 October 2023
- Invited Faculty, Instructor at the ECMO executive course at the University of Milano-Bicocca "Implementation and management of the Extracorporeal Membrane Oxygenation (ECMO) support in Acute Respiratory Distress Syndrome patients" at the simulation session on "Hands-on on mechanical ventilation during ECMO" at the ECMO executive course at the University of Milano-Bicocca on October 4th, 2023
- Presenter, poster session, 1st Jordi Mancebo PLUG Physiology Symposium – discussing with a taste – Scientific meeting on applied physiology in the critically ill – Barcelona - 28-30 September, 2023, "Inspiratory effort assessment during pressure support ventilation at different levels of expiratory cycling: a physiological study"
- Invited Speaker, Third International Conference "Therapeutic Applications of Nitric Oxide in Cancer and Related-Diseases" 4-5 September 2023 Udine, Italy, with the Lecture: "Nitric oxide pathophysiology and applications in patients undergoing major cardiac surgery."

- Invited Faculty – Speaker at 34° SMART LIVE MEETING 2023
    - Common errors in managing morbidly obese patients in ICU (25/05/2023)
- Invited Faculty – Speaker and Instructor at simulation sessions at 34° SMART LIVE MEETING 2023 on mechanical ventilation
    - Alveolar Recruitment and PEEP setting based on respiratory mechanics (24/05/2023)
- Invited Faculty, Speaker, at the Ventilab meeting on "Insufficienza respiratoria: Fisiopatologia e supporto ventilatorio non invasivo" at Milano, Sala Convegni Margherita, Hotel Lombardia, Viale Lombardia, 74, on April 20, 2023 with the Lecture:
    - "Criteri di fallimento della ventilazione non-invasiva"
- Invited Faculty, Instructor at the ECMO executive course at the University of Milano-Bicocca "Implementation and management of the Extracorporeal Membrane Oxygenation (ECMO) support in Acute Respiratory Distress Syndrome patients" at the simulation session on "Mechanical Ventilation in patients undergoing veno-venous ECMO" at the ECMO executive course at the University of Milano-Bicocca on March 1, 2023
- Faculty - Speaker and Instructor at Draeger Masterclasses on mechanical ventilation including Simulation Sessions at University of Milano-Bicocca, Monza Italy and Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy (5 days, 20 hours, 2023)
    - Controlled mechanical ventilation
    - Assisted mechanical ventilation
    - Basics of Electrical Impedance Tomography, mechanical ventilation of patients with Chronic Obsrtuctive Pulmonary Disease, Weaning from Mechanical Ventilation
- Invited Faculty, "Jornadas de Medicina Intensiva do Porto" – 25th JMIP focused on the field of Intensive Care Medicine. 15-16 of December 2022 dedicated to: "Ventilation, Communication and Research on Intensive Care" at Oporto University, Medical Faculty (ICBAS); session on "Energy delivered on Mechanical ventilation"
    - Monitoring Lung Injury and Ventilation Intensity in Controlled Ventilation (Lecture)
- Invited Faculty, Speaker, at the ECMO executive course at the University of Milano-Bicocca "Implementation and management of the Extracorporeal Membrane Oxygenation (ECMO) support in Acute Respiratory Distress Syndrome patients" with the lecture titled: "Mechanical Ventilation in patients undergoing veno-venous ECMO" November 26, 2022
- Invited Faculty, Instructor at the ECMO executive course at the University of Milano-Bicocca "Implementation and management of the Extracorporeal Membrane Oxygenation (ECMO) support in Acute Respiratory Distress Syndrome patients" at the simulation session on "Mechanical Ventilation in patients undergoing veno-venous ECMO" at the ECMO executive course at the University of Milano-Bicocca on November 26, 2022
- Organizing Committee, VI meeting di Dipartimento – 30 Settembre 2022 – Interdisciplinarietà – Innovazione – Divulgazione – Valori per la ricerca del futuro – University of Milano-Bicocca, Monza, Italy
- Faculty, Organizer and Scientific Committee of Corso introduttivo di Rianimazione Unimib crash course 2022 – Intensive Care Medicine Crash Course 2022, University of Milano-Bicocca (14-18 November 2022)
    - Respiratory mechanics during controlled mechanical ventilation at bedside (14/11/2022)
    - Respiratory mechanics during assisted mechanical ventilation at bedside (14/11/2022)
    - Simulation session: respiratory mechanics during passive ventilation (15/11/2022)
    - Simulation session: respiratory mechanics during passive ventilation (16/11/2022)
- Faculty, Organizer and Scientific Committee of Corso introduttivo di Anestesia Unimib Crash Course 2022, University of Milano-Bicocca, 2-4 Novembre 2022
    - Theoretical session: Monitoring in Anesthesia (02/11/2022)
    - Hands-on Simulation training: Workstation di anestesia, monitoraggio intraoperatorio, sistemi Target-Controlled Infusion (02/11/2022)
- Steering Committee, Faculty and Speaker at Villa Grumello, Lake Como School of Advanced Studies, "Starting a Grant proposal: from idea to practice (GPIP)", July 18th-22nd, 2022)
- Invited Speaker, Kavanagh Physiology Rounds (KPR), May 24th, 2022: "Chest wall compression in ARDS with low compliance"

- Invited Faculty – Speaker and Instructor at simulation sessions at 33° SMART LIVE MEETING 2022 on mechanical ventilation
    - Alveolar Recruitment and PEEP setting based on respiratory mechanics (04/05/2022)
    - How to improve ARDS management based on the respiratory mechanics and Ultrasound evaluation (05/05/2022)
    - Setting the ventilator during assisted ventilation (06/05/2022)
- Faculty - Speaker and Instructor at Draeger Masterclasses on mechanical ventilation including Simulation Sessions at University of Milano-Bicocca, Monza Italy and Ospedale San Gerardo dei Tintori, ASST Monza, Monza, Italy (5 days, 20 hours, 2022)
    - Controlled mechanical ventilation
    - Assisted mechanical ventilation
    - Basics of Electrical Impedance Tomography, mechanical ventilation of patients with Chronic Obsrtuctive Pulmonary Disease, Weaning from Mechanical Ventilation
- Steering Committee, Faculty and Speaker at the GSS - Grant Starter School "THE VALUE OF INTERDISCIPLINARITY IN GRANT WRITING" – "Starting a Grant proposal" School of the University of Milano-Bicocca, November 30th-December 3rd, 2021
- Faculty, Organizer and Scientific Committee of Corso introduttivo di Rianimazion Unimib crash course 2021 – Intensive Care Medicine Crash Course 2021, University of Milano-Bicocca (16-17 Novembre 2021), Speaker on 16 November 2021 "Monitoring during anesthesia in the theater"
- Faculty - Speaker and Instructor at Draeger Masterclasses on mechanical ventilation including Simulation Sessions at University of Milano-Bicocca, Monza Italy and Ospedale San Gerardo dei Tintori, ASST Monza, Monza, Italy (5 days, 20 hours, 2021)
    - Controlled mechanical ventilation
    - Assisted mechanical ventilation
    - Basics of Electrical Impedance Tomography, mechanical ventilation of patients with Chronic Obsrtuctive Pulmonary Disease, Weaning from Mechanical Ventilation
- Invited Faculty - Speaker and Instructor at simulation sessions at e-SMART 31° SMART VIRTUAL MEETING LIVE STREAMING 2020 on mechanical ventilation:
    - Monitoring of patient-ventilator interaction at the bedside (13/11/2020)
    - Alveolar recruitment and PEEP setting based on respiratory mechanics (14/11/2020)
    - Setting the ventilator during assisted ventilation (14/11/2020)
- Invited Faculty at SMART course on mechanical ventilation, November 21-22, 2019, Krakow, Poland
    - Basic course: Simulated case on screen: "How to set up PEEP"
    - Advanced course: Imaging of the respiratory system - Electrical Impedance Tomography
- Invited Speaker at Corso introduttivo di Anestesia inter-ateneo – Anesthesia Crash Course 2019 University of Milano-Bicocca and University of Milano Statale – 4-8 Novembre 2019
    - Theoretical session: Monitoring in Anesthesia (04/11/2019)
    - Hands-on Simulation training: Workstation di anestesia, monitoraggio intraoperatorio, sistemi Target-Controlled Infusion (04/11/2019)
- Invited Speaker at REMEDI Seminar, "Potential of Mesenchymal Stem Cells for Acute Respiratory Distress Syndrome", January 24th, 2019
- Instructor of the course on mechanical ventilation – Workshop Proxima – of the "Società Italiana di Analgesia, Anestesia e Rianimazione e Terapia Intensiva" (SIAARTI) (18-21 October, 2017)
- Invited Faculty and Moderator at the Hi-Impact Critical Care Conference 2.0, November 8-9, 2018, in Galway, Ireland
- Sinvited peaker at the Hi-Impact Critical Care Conference 2.0, November 8-9, 2018, in Galway, Ireland presenting the following lectures:
    - Acute kidney Injury, ARDS, and Hemolysis
    - When do I start ExtraCorporeal CO_2 removal?
- Instructor of the workshop on mechanical ventilation at the Hi-Impact Critical Care Conference 2.0, November 8-9, 2018, with the following lecture:
    - Patient-ventilator interaction
- Organizing Committee, Round Table on "Challenges in Mechanical Ventilation and Airway Technologies", May 12-13, 2016, Massachusetts General Hospital, Department of Anesthesia, Critical Care

and Pain Medicine and Harvard Medical School, Boston, MA, USA

Third mission

- Invited Lecturer, Summer School 2025, University of Milano-Bicocca, Monza, June 18, 2025, "Gestione della Morte Cerebrale e Coordinamento della Donazione: la prospettiva dell'anastesista e rianimatore"
- Invited Lecturer, Summer School 2025, University of Milano-Bicocca, Monza, June 26, 2025, "Gestione della Morte Cerebrale e Coordinamento della Donazione: la prospettiva dell'anastesista e rianimatore"
- Invited Speaker, Giornata Nazionale delle Università 2025, Università svelate 2025, Università in famiglia, Università Milano-Bicocca, Monza, 20 marzo 2025, 15:00-18:00
- Invited Speaker, Giornata Nazionale delle Università, Tra Provette e Microscopi...e non solo! Laboratori aperti al Dipartimento di Medicina e Chirurgia, "Medicina Critica: Coniugare Ricerca e Cura" 20 Marzo, 2024, 10:00-10:30
- Invited Speaker, Dipartimento di Medicina e Chirurgia, Orientamento PNRR – Dal banco di scuola un salto nella medicina. "Curiamo: SOS cuore e cervello", Aula Magna, Edificio U8, Università Milano-Bicocca, Monza, 3 maggio 2023, 9:00-12:00
- Invited Faculty – Chair, abstract presentation, Section 1, VI meeting di Dipartimento – 30 Settembre 2022 – Interdisciplinarietà – Innovazione – Divulgazione – Valori per la ricerca del futuro – University of Milano-Bicocca, Monza, Italy

Supervision of Erasmus + students and members of ethnic minorities

- Kevser Buse Catal, Female Medical student, UNIVERSITY Atatürk University, Turkey, August-September 2023
- Ayaka Nakagawa, Female Medical student, Japan, Fujita Health University, April 2024
- Shunya Tsukamoto, Female Medical student, Japan, Fujita Health University, April 2024
- Camila Serri, Female Medical student, Argentina (29/04/2024 – 2/05/2024)
- Natalia Niedziela, Female Medical student, Poznan University of Medical Sciences, Poland, October 2023
- Konrad Zuzda, Male PhD student, Department of Anaesthesiology and Intensive Care, National Medical Institute of the Ministry of the Interior and Administration, Warsaw, Poland, October-December 2024
- Da cruz Figueiredo Filipa, Female Medical student, Lisbon University, Portugal, October-December 2024
- Dufter Anna Lena, Female Medical student, Frieburg University, Germany, October-December 2024
- Matos Salgado Mariana, Female Medical student, Lisbon University, Portugal, October-December 2024
- Enes Poyraz, Male medical student, UNIVERSITY Atatürk University, Turkey, April 2025

Teaching Experiences

- Lecturer, "Treatment of ARDS in the post-pandemic period – ARDS after COVID-19: What has changed?" Intensive Care Residency Program, Hospital Alfa do Recife, Recife, Brazil, April 8th, 2024
- Professor of Anesthesia and Critical Care at the Degree in Medicine and Surgery for the elective course in "Fisiopatologia della ventilazione meccanica", of the University of Milano-Bicocca, 2022-2023 (12 students), 2023-2024 (10 students), 2024-2025 (18 students)
- Professor of "Anestesiologia e Primo soccorso" at the Degree in "Imaging and Radiotherapy techniques" of the University of Milano-Bicocca, 2022-2023, 2023-2024, 2024-2025
- Professor of "Anestesiologia e Primo soccorso" at the Degree in "Biomedical Laboratory techniques", of the University of Milano-Bicocca, 2022-2023, 2023-2024, 2024-2025
- Lecturer on "Respiratory effort monitoring during spontaneous breathing in ARF" - Residency program in Anesthesia and Critical Care Humanitas University, Milan, Italy Rozzano, June 3, 2021
- Lecturer for the Residency program in Anesthesia, Resuscitation, Critical Care and Pain Medicine, University of Milano-Bicocca, 2018-2019, 2019-2020, 2020-2021, 2022-2023, 2023-2024, 2024-2025
- Lecturer for the Medical Doctor degree in the teaching program of Medical and Surgical Urgency and Emergency, VI year, Medical Doctor Degree University of Milano-Bicocca, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025
- Lecturer for the Master / First Level – in Anesthesia and Intensive Care Nursing Degree, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025

- Tutoring, Consultant Anaesthetist and Intensivist Seraina Eymann, Coira Hospital, Switzerland, 21-25/10/2024

Development of individuals and collaborations

- Stefano Gatti, Resident, Anesthesia, Critical Care and Pain Medicine at the University of Milano-Bicocca (UNIMIB), Monza, Italy (2021)
- Nicola Maffei, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Alice Nova, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Mattia Docci, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Ilaria Bruno, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Veronica Bozzon, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Melissa Polo Fritz, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Chiara Crivellari, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2022)
- Davide Raimondi Resident, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2023)
- Lorenza Moretto, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2023)
- Rosa Fracchia, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2023)
- Andrea Restivo, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2023)
- Roberta Garberi, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2024)
- Claudio Ripa, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2024)
- Gianmarco Carenini, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2024)
- Liliana Amendolagine, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2024)
- Davide Vergallito, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2024)
- Michele delle Vergini, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2025)
- Davide Tonetti, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2025)
- Matteo Sola, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2025)
- Marta Repisthi, Resident, Anesthesia, Critical Care and Pain Medicine at the UNIMIB, Monza, Italy (2025)
- Mariana Silva, PhD Candidate, The Organ-on-Chip Bioengineering research group, Technological University of the Shannon Limerick, Limerick, Ireland (2024-2028)

Thesis Supervisor / Co-supervisor

1. Isabella Palumbo, "Quantificazione della capacità funzionale residua tramite un sensore di ossigeno ultraveloce e con geometria a nanofluorescenza: uno studio fisiologico in volontari sani", **Degree in Nursing and Obstetrics Science** at University of Milano-Bicocca, Monza, Italy (2024-2025)
2. Lorenzo Pomati, "Long term outcome of patients with refractory cardiac arrest treated with Extracorporeal Cardiopulmonary Resuscitation in an Italian tertiary centre", **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2024-2025)
3. Francesca Segalini, "Ventilation settings and survival in acute respiratory distress syndrome patients undergoing veno-venous ECMO: an observational cohort study", **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2024-2025)
4. Filippo Federici, "A Novel Approach to Evaluate Oxygen Diffusion in Patients with Acute Hypoxaemic Respiratory Failure during Mechanical Ventilation", **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2024-2025)

5. Francesca Motta, "A multimodal approach to assess post-cardiac arrest brain injury and neuroprotection in preclinical models", **PhD in Pharmacologic Sciences** at Cardiovascular Preclinical Research laboratory, Mario Negri Institute of Pharmacological Research, Milan, Italy (2023-2024)
6. Mauro Conti, "Sedazione durante procedure di endoscopia digestiva: confronto tra midazolam e remimazolam", **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Messina, Messina, Italy (2023-2024)
7. Mattia Docci, "A novel method for noninvasive continuous breath-by-breath estimation of patient's inspiratory effort during pressure support ventilation" **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2022-2023)
8. Alice Nova, "Inspiratory effort during pressure support ventilation at different levels of expiratory cycling: a physiological study (Cyclopes)" **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2022-2023)
9. Gloria Magni, "Ecografia delle vie aeree e difficoltà di intubazione in chirurgia elettiva: studio prospettico di coorte monocentrico" **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2022-2023)
10. Pisa Andrea, "Estimation of respiratory system airway resistance in critically ill patients undergoing assisted mechanical ventilation at bedside a physiological cohort study" **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2022-2023)
11. Leopoldo Giordano, "Alta intensità chirurgica: un nuovo modello organizzativo di unità di cura" **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2022-2023)
12. Simona Cenci, "Estimation of respiratory system airway Resistance in critically ill patients Undergoing assisted mechanical Ventilation at bedside: A physiological cohort study" **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2022-2023)
13. Simone Redaelli, "Evidence for the Presence of Inflammatory Subphenotypes in Patients at Risk of Acute Respiratory Distress Syndrome: A Secondary Analysis of the LIPS-A Trial" **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy 2021-2022
14. Simone Checchi, "Common carotid artery ultrasound versus invasive cardiac output measurement: a comparative prospective study", **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy 2021-2022
15. Davide Signori, "Phenotyping covid-19 respiratory failure in spontaneously breathing patients with artificial intelligence on lung ct-scan images: a multicenter clinical study" - **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy 2021-2022
16. Andrea Paleari "Accuratezza e implementazione della capacità diagnostica nell'ictus in ambito pre-ospedaliero. Sottoanalisi dello studio AIPO presso la Fondazione IRCCS San Gerardo dei Tintori" **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2022-2023)
17. Francesca Caserio "Association of early changes in Hb levels and CT scan assessment of cerebral edema after cardiac arrest: a retrospective study" **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2022-2023)
18. Davide Bugada "Hemodynamic changes during weaning from controlled to assisted mechanical ventilation: a retrospective study" **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2022-2023)
19. Jack Brady "Profiling the Adaptive Immune Response in Pre-Clinical and Clinical Sepsis and the impact of Mesenchymal Stromal Cells on the adaptive response" **Master Thesis** - College of Medicine, Nursing, & Health Sciences – National University of Ireland Galway, Galway, Ireland (2022-2023)
20. Matteo Cazzaniga "Performance of ventilatory variables in Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE study." – **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2020-2021)
21. Giulia Villa "Quantitative and qualitative lung CT characteristics in COVID-19 respiratory failure: the TAC-COVID19 multicenter observational cohort study." - **Postdoctoral Residency program in Anesthesia, Critical Care and Pain Medicine** at University of Milano-Bicocca, Monza, Italy (2020-2021)
22. Ilaria Bruno "Role of systemic inflammation estimated by seric ferritin on outcomes in critically ill patients with and without COVID-19 ARDS – an observational retrocpective cohort study" – **Postdoctoral**

Residency program in Anesthesia, Critical Care and Pain Medicine at University of Milano-Bicocca, Monza, Italy (2021-2022)

23. Simone Lodi Rizzini "Fattori associati allo sviluppo di insufficienza Renale acuta in pazienti con insufficienza respiratoria da Covid-19 ammessi in terapia Intensiva: studio di coorte multicentrico" - **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2020-2021)
24. Davide Olivari "Brain Kynurenine Pathway and Functional Outcome of Rats Resuscitated From Cardiac Arrest" - **PhD in Pharmacologic Sciences** at Cardiovascular Preclinical Research laboratory, Mario Negri Institute of Pharmacological Research, Milan, Italy (2019-2020)
25. Davide De Ponti "Role of the time constant to investigate alveolar recruitment during peep titration by electrical impedance tomography: a physiological study" - **Degree in Medicine and Surgery** at University of Milano-Bicocca, Monza, Italy (2019-2020)

Editorial Board Membership

- Drug target Insights (Associate Editor)
- Frontiers in Medicine (Associate Editor of the section "Intensive Care Medicine and Anesthesiology" and Guest Editor and of the collection "Lung Monitoring in Respiratory Failure")
- Medicine and Science Journal (Section Editor of Section "Anesthesiology & Intensive care")
- Medical Gas Research (Editorial Board Member)
- Scientific Reports (Editorial Board Member of the Section "Critical Care Medicine" and Guest Editor of the Collection "Ventilation Management")
- Polymers (Guest Editor of the Section "Natural Polymers in Drug Delivery and Immunotherapeutics")
- International Journal of Environmental Research and Public Health (Guest Editor of the Section "Nursing Care and Clinical Management in the Post-pandemic Era")
- Nursing Reports (Guest Editor of the Section "Nursing Care and Clinical Management in the Post-pandemic Era")
- Journal of Clinical Medicine (Guest Editor of the section "Lung Injury and the Intensive Care Unit: Pathophysiology, Clinical Practice and Treatment for Better Outcomes")

Reviewer for peer-reviewed journals

American Journal of Respiratory and Critical Care Medicine
Annals of Intensive Care
Advances in Mechanical Engineering
BMC Anesthesiology
BMC Pulmonary Medicine
Breathe (European Respiratory Society)
Cells
Chest
Circulation Research
Critical Care
European Journal of Medical Research
European Respiratory Journal
Frontiers in Cardiovascular Medicine
Frontiers in Medicine
Frontiers in Physiology
Drug target Insights
Journal of Applied Physiology
Journal of Critical Care
Journal of Clinical Medicine
Intensive and Critical Care Nursing
Intensive Care Medicine
Intensive Care Medicine Experimental
International Journal of Medical Sciences

International Journal of Medical Research
Materials Today Chemistry
Medical Gas Research
Nutrients
Plos One
Respiratory Care
SAGE Open Medical Case Reports
Scientific Reports

Coordinator or Investigator in national and international multicenter clinical studies

- Enteral Versus Intravenous Sedation in Critically Ill High-risk ICU Patients - SedaEN investigators – Promoting center: Ospedale San Paolo, Università degli Studi di Milano, Milano, Italia (NCT01360346)
- SedaICU investigators - Promoting center: Ospedale San Paolo, Università degli Studi di Milano, Milano, Italia (NCT01360346)
- CEVETIS group – Promoting center: Ospedale di Circolo, Università degli Studi dell'Insubria, Varese, Italia
- MGHK23 - Effect of Nitric Oxide in Cardiac Surgery Patients With Endothelial Dysfunction - Promoting center: Massachusetts General Hospital, Boston, USA (NCT02836899)
- MGH-nitrogen - Prolonged Hypoxic Breathing in Healthy Volunteers: a Safety Study - Promoting center: Massachusetts General Hospital, Boston, USA (NCT02860975)
- Open Lung Strategy in Critically Ill Morbid Obese Patients - Lung Rescue Team Investigators - Promoting center: Massachusetts General Hospital, Boston, USA (NCT02503241)
- LUNG SAFE group - Large Observational Study to UNderstand the Global Impact of Severe Acute Respiratory FailurE - Promoting center: Department of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy and National University of Ireland, Galway University Hospitals, Galway, Ireland (NCT02010073)
- RISC-19-ICU registry - The RIsk Stratification in COVID-19 Patients in the ICU Registry (RISC-19-ICU) - Promoting center: Institute of Intensive Care Medicine, University Hospital Zurich; Italian coordinating center: Department of Anesthesia and intensive Care Medicine, Policlinico San Marco, Gruppo Ospedaliero San Donato, Zingonia, Bergamo (NCT04357275)
- Lung CT Scan Analysis of SARS-CoV2 Induced Lung Injury - TAC-COVID19 – Promoting center: University of Milano-Bicocca, Monza, Italy (NCT04395482)
- WARd-COVID - Noninvasive Ventilatory Support of Patients with COVID-19 outside the Intensive Care Units – Promoting center: University of Milano-Bicocca, Monza, Italy
- PROVENT-C19 - The PROVENT-C19 Registry: a study protocol for international multicenter SIAARTI registry on the use of prone positioning in mechanically ventilated patients with COVID-19 ARDS – Promoting center: Ospedale di Vicenza – AULSS n.8 Berica (NCT04905875)
- ICEBERG study: Respiratory Mechanics Assessment during Assisted Mechanical Ventilation – multicenter prospective International study on the assessment of respiratory mechanics during assisted mechanical ventilation – Promoting Center: University of Milano-Bicoca, Monza, Italy; Coordinating Center: Fondazione IRCCS San Gerardo dei Tintori, Ospedale San Gerardo, Monza, Italy (NCT05203536)
- PRESS-IT study: Sviluppo, validazione ed utilizzazione clinica di un modello predittivo di intelligenza artificiale in grado di identificare i pazienti ricoverati in terapia intensiva a rischio di sviluppare lesioni da pressioni: uno studio multicentrico italiano – Promoting Center: U.O. Anestesia e Rianimazione, Ospedale Infermi, Rimini, Italia
- HENIVOT 2 trial: Helmet noninvasive ventilation versus helmet CPAP versus high-flow oxygen therapy in acute hypoxemic respiratory failure: an open-label, multicentre, randomized trial - Promoting Center: Department of Emergency, Intensive Care Medicine and Anesthesia, Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy and Istituto di Anestesiologia e Rianimazione, Università Cattolica del Sacro Cuore, Rome, Italy (NCT05089695)
- IPERPEEP trial - Individualized Positive End-expiratory Pressure Guided by End-expiratory Lung Volume in the Acute Respiratory Distress Syndrome - Promoting Center: Fondazione Policlinico Universitario Agostino Gemelli IRCCS (NCT04012073)
- Preventing caRdiovascular collapsE with VasoprEssors duriNg Tracheal IntubatiON: The PREVENTION Randomized Controlled Trial - Promoting Center: l'Università degli studi di Torino (NCT05014581)

- Prone positioning during veno-venous ECMO – European Prone positioning During Extracorporeal Membrane Oxygenation (EUROPRONECMO) Investigators
- Inspiratory Effort at Different Expiratory Cycling and Airway Resistance During Pressure Support Ventilation (CYCLOPES) Promoting Center: Fondazione IRCCS San Gerardo dei Tintori (NCT05952726)
- Chronic Postsurgical Pain: Multivariate Prediction Model – CPOP – Promoter: Società Italiana di Anestesia Analgesia Rianimazione e Terapia Intensiva – SIAARTI
- Retrospective ANalysis of multi-drug resistant Gram-nEgative bacteRia on veno-venous extracorporeal membrane oxygenation. The multicenter RANGER STUDY - Promoting Center: Padua University Hospital and University of Padua
- Heterogeneous impact of Sighs on mortality in patients with acute hypoxemic respiratory failure: insights from the PROTECTION study - Pleural Pressure Working Group (PLUG) (NCT03201263) – Promoting Center: University of Milan
- Effect of a quality improvement program on compliance to the sepsis bundle in non-ICU patients: a multicenter prospective before and after cohort study. Lotta alla Sepsi" Team Study Group. Promoting Center: Niguarda University Hospital, Milan, Italy
- Epidemiology and outcomes of early-onset AKI in COVID-19-related ARDS in comparison with non-COVID-19-related ARDS: insights from two prospective global cohort studies. CCCC Consortium
- High arterial oxygen levels and supplemental oxygen administration in traumatic brain injury: insights from CENTER-TBI and OzENTER-TBI – CENTER-TBI investigators and OzENTER TBI investigators - https://www.center-tbi.eu; https://opal.center-tbi.eu/pub/study/ozenter-tbi-core
- International obServational sTudy on AiRway manaGement in operAting Room and Non-operaTing Room anaEsthesia (STARGATE) (NCT05759299)
- Outcome of Cardiac Arrest Patients Following Guidelines Implementation Over the Years (IMPACT-ACC) (NCT06608771)
- Preventing Cardiovascular Collapse With Vasopressors During Tracheal Intubation (PREVENTION) (NCT05014581)

National and International memberships – positions

- Italian National Coordinator of the RISC-19-ICU registry - promoting center: Institute of Intensive Care Medicine, University Hospital Zurich
- Member of the Steering Committee of the PROVENT-C19 Registry
- Regional Representative (Lombardy) in the group Proxima Network for young Consultants in Anesthesia and Intensive Care Medicine for the "Società Italiana di Analgesia, Anestesia e Rianimazione e Terapia Intensiva: (SIAARTI), AA 2018-2019, AA 2019-2020
- Member at Società Italiana di Analgesia, Anestesia e Rianimazione e Terapia Intensiva: (SIAARTI), AA 2018-2019, AA 2019-2020, AA 2020-2021, AA 2021-2022, AA 2022-2023, AA 2023-2024, AA 2024-2025
- Section Member of the Acute Respiratory Failure Section at the European Society of Intensive Care Medicine AA 2018-2019
- Executive Committee Member of the Acute Respiratory Failure – Translational Biology Group at the European Society of Intensive Care Medicine, AA 2017-2018, AA 2018-2019
- Member of the American Thoracic Society AA 2018-2019
- Member of the Society of Critical Care Medicine AA 2014-2015
- Associate Member at the European Society of Anaesthesiology AA 2018-2019
- Member in Training at the European Society of Anaesthesiology AA 2019
- Member at the Italian Resuscitation Council AA 2022-2023, AA 2023-2024, AA 2024-2025
- Member at the European Society of Intensive Care Medicine AA 2018-2019, AA 2019-2020, AA 2020-2021, AA 2021-2022, AA 2022-2023, AA 2023-2024, AA 2024-2025

Industry collaborations

- Draeger
- Pall
- Burke&Burke

Laboratory Informatics Expertise

Softwares:

1. Microsoft packages (Office, Power Point, Excel) – advanced level of use
2. GraphPad Prism – advanced level of use
3. STATA – advanced level of use
4. Adobe illustrator – intermediate level of use
5. OsiriX Lite for computed tomography lung imaging – advanced level of use
6. ImageJ for computed tomography lung imaging – advanced level of use
7. Electrical Impedance Tomography for ventilation and perfusion assessment PulmoVista Draeger – advanced level of use
8. Simulation of passive and active ventilation on different patterns of respiratory diseases by using the ASL5000 lung simulator
9. Powerlab and Labview for recording and off-line analysis of ventilatory and hemodynamic waveforms – advanced level of use

Lab techniques:

1. Plasma NO consumption measurements through a NO chemiluminescence analyzer (Sievers 280i, GE, Boulder, CO) - advanced level of use
2. Plasma nitrite and nitrate measurements through a NO chemiluminescence analyzer (Sievers 280i, GE, Boulder, CO) - basic level of use
3. Plasma hemoglobin, plasma haptoglobin, and cytokine measurements with commercially available enzyme-linked immunosorbent assay (ELISA) kits
4. Cell coltures of primary (e.g. mesenchymal stem/stromal cells) and secondary (e.g. lung epithelial cells - A459 and human monocytic cells - THP-1) cell lines
5. Analysis of cell metabolic activity, cytotoxicity and cytostatic activity by the colorimetric MTT assay
6. Quantification of the phagocytosis process by the use of vibrant phagocytosis assay kit
7. Lung histology using quantitative stereological technique
8. Microbiology techniques including agar colture, quantification/kinetic of bacterial growth, Kirby-Bauer test, optical density by absorbance
9. Basics of cell sorting and flow cytometry techniques
10. Thromboelastography (TEG) and Rotational Thromboelastometry (ROTEM) to quantify the viscoelasticity of the clot.

Patent applications and Inventions

Patent application for industrial invention n.102025000011827 dal titolo: "Improved machine for mechanical ventilation and related functioning methodology"

Author of more than 160 peer reviewed scientific papers in International Journals (indexed in pubmed), more than 20 National and International book chapters, and of more than 60 publications in abstract or poster format.
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