



João Batista Borges, M.D., Ph.D.

CURRICULUM VITAE

QUALIFICATIONS SUMMARY

Accomplished research scientist with over 20 years of experience serving as key academic contributor to fields of respiratory and critical care medicine.

Advanced expertise in developing animal models of respiratory diseases, research in translational setting, leading clinical studies, managing laboratory procedures, and achieving grant funding for high-profile research.

Knowledgeable thought leader with demonstrated record of success leading groundbreaking research of questions relating to lung protective ventilation of critically ill patients.

Strong track record of publications in high impact journals, international conferences presentations, lecturer, book chapter authorship, and grant awards.

Committed to mentoring undergraduate and postgraduate students, medical students and research staff, with dedication to developing next generation of research contributors.

Areas of Expertise: Clinical/Experimental Study Methodology; Translational Research; Animal Models of Respiratory Diseases; Design, Plan and Carry out Physiological Experiments; Data Analysis & Interpretation; Grant Proposals; Experimental Design; Student & Research Staff Supervision; Research Logistics; Project Management; Collaborative Partnerships.

Published 75 full paper scientific publications in peer-reviewed journal articles.

Author of 13 book chapters. 96 peer-reviewed, published conference contributions.

Review Editor on the Editorial Board of Integrative Physiology - specialty section of Frontiers in Physiology.

EDUCATION

Medical Degree (M.D.) University of Rio Grande do Sul, School of Medicine, Porto Alegre, Brazil, 1993.

Doctor of Philosophy (Ph.D.): Medical Science

University of São Paulo, São Paulo, Brazil; Date of the Thesis Defence: 2003-09-09.

Doctor of Philosophy (Ph.D.): Medical Science

Uppsala University, Uppsala, Sweden; Date of the Thesis Defence: 2014-10-03.

Medical Residency: Internal Medicine, Conceição Hospital Group, Porto Alegre, Brazil, 1995.

Medical Residency: Critical Care Medicine, Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil, 1997.

Board Certified: Intensive Care Medicine: Brazilian Association of Intensive Care Medicine/Brazilian Medical Association.

PROFESSIONAL EXPERIENCE

Charles University, First Faculty of Medicine, Institute of Physiology, Prague, Czech Republic, February 2020 – present: Senior Researcher.

King's College London, London, England, December 2018 - December 2019: Research Associate.

Uppsala University, Uppsala, Sweden, 2008 - 2018: Postdoctoral Researcher.

University of São Paulo, São Paulo, Brazil, 2003 – 2008: Postdoctoral Researcher.

Physician, Intensive Care Medicine, 1998 - 2008.

Scholarships and Awards

Awarded a grant from The Czech Science Foundation (GACR), to develop his research as a Senior Researcher at Charles University, First Faculty of Medicine, Institute of Physiology - January 2022 to December 2024.

Swedish Intensive Care Society (SIS), Year's Swedish Intensive Care Article, 2015.

Winning Abstract, Award Winning Session, 25th Annual Congress of European Society of Intensive Care Medicine, 2012.

Awarded a grant from Swedish Heart Lung Foundation to develop his research as a Visiting Scholar at University of Uppsala - January 2011 to December 2011.

Awarded a grant from European Respiratory Society (ERS) to develop his research as a Visiting Scholar at University of Uppsala - September 2009 to August 2010.

Awarded a grant from CAPES, a Foundation affiliated with the Ministry of Education of Brazil, to develop his research as a Visiting Scholar at University of Uppsala - September 2008 to August 2009.

Peer Review Contributions

Scientific Reports (from the publishers of Nature), *American Journal of Respiratory and Critical Care Medicine*, *Critical Care Medicine*, *Chest*, *Annals of Intensive Care*, *Critical Care*, *Intensive Care Medicine*, *BMC Pulmonary Medicine*, *BMC Emergency Medicine*, *BMC Anaesthesiology*, *Expert Review of Respiratory Medicine*, *Acta Anaesthesiologica Scandinavica*

Selected publications

Targeted lateral positioning decreases lung collapse and overdistension in COVID-19-associated ARDS. Mikuláš Mlček, Michal Otáhal, João Batista Borges, Glasiela Cristina Alcalá, Dominik Hladík, Eduard Kuriščák, Leoš Tejkl, Marcelo Amato, Otomar Kittnar. *BMC Pulm Med* 2021 Apr 24;21(1):133. doi: 10.1186/s12890-021-01501-x.

A Step Forward toward a Bedside and Timely Monitoring of Regional V./Q. Matching.

Borges JB, Alcalá GC, Mlček M.

Am J Respir Crit Care Med. 2020 Nov 15;202(10):1342-1344. doi: 10.1164/rccm.202007-2896ED.

Real-time effects of PEEP and tidal volume on regional ventilation and perfusion in experimental lung injury. Borges JB, Cronin JN, Crockett DC, Hedenstierna G, Larsson A, Formenti F.

Intensive Care Med Exp. 2020 Feb 21;8(1):10.

A conceivable mechanism of harm in a stretched "teen lung". Borges JB. *Crit Care*. 2019 Jan 10;23(1):8. doi: 10.1186/s13054-018-2284-6.

Electrical impedance tomography in acute respiratory distress syndrome.

Bachmann MC, Morais C, Bugeo G, Bruhn A, Morales A, Borges JB, Costa E, Retamal J.

Crit Care. 2018 Oct 25;22(1):263. Review.

Does Regional Lung Strain Correlate with Regional Inflammation in Acute Respiratory Distress Syndrome During Nonprotective Ventilation? An Experimental Porcine Study.

Retamal J, Hurtado D, Villarreal N, Bruhn A, Bugeo G, Amato MBP, Costa ELV, Hedenstierna G, Larsson A, Borges JB. *Crit Care Med*. 2018 Jun;46(6):e591-e599.

High Positive End-Expiratory Pressure Renders Spontaneous Effort Noninjurious. Morais CCA, Koyama Y, Yoshida T, Plens GM, Gomes S, Lima CAS, Ramos OPS, Pereira SM, Kawaguchi N, Yamamoto H, Uchiyama A, Borges JB, Vidal Melo MF, Tucci MR, Amato MBP, Kavanagh BP, Costa ELV, Fujino Y. *Am J Respir Crit Care Med*. 2018 May 15;197(10):1285-1296. doi: 10.1164/rccm.201706-1244OC.

The Plausibility of "Bronchiolotrauma". Borges JB. *Am J Respir Crit Care Med*. 2018 Apr 15;197(8):1086-1087. doi: 10.1164/rccm.201708-1685LE.

The Increasing Call for Protective Ventilation During Anesthesia. Borges JB, Amato MBP, Hedenstierna G. *JAMA Surg*. 2017 Sep 1;152(9):893-894. doi: 10.1001/jamasurg.2017.1614.

The "normal" ventilated airspaces suffer the most damaging effects of mechanical ventilation. Borges JB, Hansen T, Larsson A, Hedenstierna G. *Intensive Care Med*. 2017 Jul;43(7):1057-1058. doi: 10.1007/s00134-017-4708-1. Epub 2017 Feb 15.

Open Lung Approach for the Acute Respiratory Distress Syndrome: A Pilot, Randomized Controlled Trial. Kacmarek RM, Villar J, Sulemanji D, Montiel R, Ferrando C, Blanco J, Koh Y, Soler JA, Martínez D, Hernández M, Tucci M, Borges JB, Lubillo S, Santos A, Araujo JB, Amato MB, Suárez-Sipmann F; Open Lung Approach Network. *Crit Care Med*. 2016 Jan;44(1):32-42. doi: 10.1097/CCM.0000000000001383.

Lung inflammation persists after 27 hours of protective Acute Respiratory Distress Syndrome Network Strategy and is concentrated in the nondependent lung. Borges JB, Costa ELV, Bergquist M, et al. *Critical Care Medicine* 2015;43(5):e123–32.

Altering the mechanical scenario to decrease the driving pressure. Borges JB, Hedenstierna G, Larsson A, Suarez-Sipmann F. *Crit Care*. 2015 Sep 21;19:342. doi: 10.1186/s13054-015-1063-x.

Early inflammation mainly affects normally and poorly aerated lung in experimental ventilator-induced lung injury*. Borges JB, Costa ELV, Suarez-Sipmann F, et al. *Critical Care Medicine* 2014;42(4):e279–87.

How we stretch the lung matters. Suarez-Sipmann F, Borges JB. *Crit Care Med*. 2013 Apr;41(4):1153-5. doi: 10.1097/CCM.0b013e3182804195.

Reabsorption atelectasis in a porcine model of ARDS: regional and temporal effects of airway closure, oxygen, and distending pressure. Derosa S, Borges JB, Segelsjö M, et al. *Journal of Applied Physiology* 2013;115(10):1464–73.

Regional lung perfusion estimated by electrical impedance tomography in a piglet model of lung collapse. Borges JB, Suarez-Sipmann F, Bohm SH, et al. *Journal of Applied Physiology* 2012;112(1):225–36.

Bedside estimation of recruitable alveolar collapse and hyperdistension by electrical impedance tomography. Costa ELV, Borges JB, Melo A, et al. *Intensive Care Med* 2009;35(6):1132–7.

Ventilation strategies for acute lung injury and acute respiratory distress syndrome. Borges JB, Carvalho CRR de, Amato MBP. *JAMA* 2008;300(1):41–author reply 41–2.

Underestimation of lung collapse and under optimization of a PEEP trial. Borges JB, Victorino JA, de Carvalho CRR. *Intensive Care Med* 2008;34(3):584–author reply 585–6.

Enlarging and protecting an aerated lung. Borges JB. *Am J Respir Crit Care Med* 2008;177(4):463–author reply 463–4.

Lung recruitment in patients with ARDS. Borges JB, Carvalho CRR, Amato MBP. *The New England Journal of Medicine* 2006;355(3):319–20–author reply 321–2.

Reversibility of lung collapse and hypoxemia in early acute respiratory distress syndrome.

Borges JB, Okamoto VN, Matos GFJ, et al.

Am J Respir Crit Care Med 2006;174(3):268–78.

Imbalances in regional lung ventilation: a validation study on electrical impedance tomography.

Victorino JA, Borges JB, Okamoto VN, et al.

Am J Respir Crit Care Med 2004;169(7):791–800.