Name	Isaac Almendros
Country	Spain
Organization	University of Barcelona
Current Position	Associate Professor

Educational Background

Dr. Almendros finished his BSc in Biology at the University of Seville in 2003. From 2004 to 2008, he conducted his PhD thesis at the Unit of Biophysics and Bioengineering at the University of Barcelona under supervision of Dr. Ramon Farré (Cum Laude) focused on the inflammatory aspects of mechanical stimuli in respiratory diseases. Then, he started his first postdoctoral fellowship under supervision of Dr. Josep Maria Montserrat (Hospital Clínic Barcelona). His research was focused on the pathophysiology of sleep apnea, the role of mesenchymal stem cells in the adverse cardiovascular outcomes and their potential use as therapeutic treatment. In 2012, he was awarded with a Marie Curie - Beatriu de Pinós fellowship to conduct research at the University of Chicago with Dr. David Gozal. The studies carried out at United States were based on hypoxia and cancer.

Professional Experiences

Scientific contributions:

Peer-review manuscripts: Dr. Almendros has published 137 articles (90 in the first quartile) (cumulative impact factor 822), participating in 29 of the articles as the first author and in 31 as corresponding author obtaining an h index= 33 with 3200 cites (scopus) or h=36 with 4373 cites (Google Scholar). Noteworthy, 85/137 manuscripts are related to this proposal (OSA studies).

Grants: Dr. Almendros obtained his first competitive national grant from the Spanish Ministry of Science in 2019 call. The PI has been financed by private research societies (SEPAR) (6 as PI) because of administrative restrictions in previous Plan Nacional calls to PI with contracts with less than 3 years of duration. Dr. Almendros has participated in other national private grants (La Marató) and from the European Union such as (HORIZON 2020. EIT. European Institute of Innovation and Technology and HORIZON 2020. PILLAR 1-EXCELLENT SCIENCE. Marie Sklodowska-Curie Actions).

Leadership: Dr. Almendros is the leader of CIBERES group 12 (CB06/06/0026). He has served important editorial positions (Junior Associate Editor of European Respiratory Journal (IF=33.801), member of the editorial board of scientific Reports (IF=4.997) and Editor Reviewer of Frontiers in Neurology (IF=4.086). Also, he is member of the Long-Term Research Committee of “PII del Sueño de SEPAR” and member of the Spanish Sleep Society research committee since 2017. Dr. Almendros has been recently elected to represent the Biomedical Sciences Department at the Medicine School’s research committee of the University of Barcelona. As a panel reviewer, he is participating in the National Evaluation and Foresight Agency (ANEP), R & D Activities for Biomedical and Health Sciences in Andalusia and in the Health Research Board (HRB) in Ireland. He has obtained numerous invitations from well recognized journals to review different aspects of hypoxia, including cardiovascular, cancer and metabolic outcomes. Dr. Almendros was Co-chair organizing ERS Research Seminar “Targeting the detrimental effects of sleep disturbances and disorders - towards personalized treatment in respiratory diseases” (Dublin, Ireland, January 2019) and Co-chair organizing the 2nd Spanish Sleep Network meeting in Vitoria, Spain (March 2018). Also, he is participating as session chair in international congresses every year. Regarding

collaborations, Dr. Almendros has a solid and long-standing collaboration with clinicians in the field of respiratory diseases, especially within the Spanish Pneumology Society (SEPAR), ERS, American Thoracic Society (ATS) and CIBERES participating in its corporative sleep program which has been recently highly rated (excellence). From this collaboration, he participated in the International Consensus Document on Obstructive Sleep Apnea (2022).

Society contributions: The results obtained about hypoxia and cancer raised great interest and have served as proof-of-concept in clinical studies. The seminal work describing the relationship OSA-cancer, as first author, has already more than 200 citations and it was included in a National Geographic documentary “Sleepless in America”. Dr. Almendros have contributed to support young researchers in international respiratory societies as Member of the AJRCCM Early Career Network and European Respiratory Society (ERS) Early Career Members Committee (young representative in Assembly 4). Regarding innovation, he has participated at HORIZON 2020. EIT. European Institute of Innovation and Technology (Sleep Apnea diagnostic and monitoring) (2018) and recently participated in the private contract “In vitro comparison of electrostimulation and Lipotec's products treatment for skin rejuvenation” financed by Lipotec, S.A (2021).

B3. Research training: Dr. Almendros has successfully supervised 6 PhD students (2 ongoing) during the last 6 years (all Cum Laude) and 8 Master students (3 of them evaluated with honors). All students currently have relevant postdoctoral positions or are working in research companies (please see proposal’s section 6.3 for details). He has also been scientific mentor of a RESPIRE3 fellow (European Respiratory Society mentoring program).

B4. Other relevant information: Dr. Almendros has received prestigious awards including Best Basic Presentation Award at the University of Chicago (2013), Lección Joven SEPAR 2015 (best under 38 y/o researcher in SEPAR), American Thoracic Society Young Investigator Award 2015, best scientific abstract in the European Respiratory Society (ERS) Congress 2019 and Buenos Días award in the ATS congress 2022. Dr. Almendros has been invited as speaker by Sleep and Breathing Symposium, Japanese Respiratory Society, American Sleep Association, Spanish Sleep Society, ERS, SEPAR, Fundación Ramon Areces and Pulmonology Congress of North Portugal among others. Currently, he has a full professor accreditation from AQU Catalunya.

Professional Organizations

Dr. Almendros is associate professor at the University of Barcelona and researcher at the CIBER of Respiratory Diseases (CIBERES) and at the Institut d’Investigacions Biomèdiques August Pi I Sunyer (IDIBAPS).

Main Scientific Publications

Publications

1. Jurado A, Ulldemolins A, Lluís H, Gasull X, Gavara N, Sunyer R, Otero J, Gozal D, **Almendros I** and Farré R, Fast cycling of intermittent hypoxia in a physiomimetic 3D environment: A novel tool for the study of the parenchymal effects of sleep apnea. Front. Pharmacol. 2023;13:1081345. ***IF: 5.988*** Quartil: 1st
2. Petzold T, Zhang Z, Ballesteros I, Saleh I, Polzin A, Thienel M, Liu L, Ul Ain Q, Ehreiser V, Weber C, Kilani B, Mertsch P, Götschke J, Cremer S, Fu W, Lorenz M, Ishikawa-Ankerhold H, Raatz E, El-Nemr S, Görlach A, Marhuenda E, Stark K, Pircher J, Stegner D, Gieger C, Schmidt-Supprian M, Gaertner F, **Almendros I**, Kelm M, Schulz C, Hidalgo A, Massberg S. Neutrophil "plucking" on

megakaryocytes drives platelet production and boosts cardiovascular disease. Immunity. 2022 Dec 13;55(12):2285-2299. ***IF: 43.474*** Quartil: 1st (Decil 1st)

3. Narciso M, Ulldemolins A, Júnior C, Otero J, Navajas D, Farré R, Gavara N, **Almendros I***. Novel Decellularization Method for Tissue Slices. Front Bioeng Biotechnol. 2022 Mar 9;10:832178. ***IF: 6.064*** Quartil: 1st - ***Corresponding author**
4. Andreu I, Falcones B, Hurst S, Chahare N, Quiroga X, Le Roux AL, Kechagia Z, Beedle AEM, Elosegui-Artola A, Trepat X, Farré R, Betz T**, Almendros I*,** Roca-Cusachs P. The force loading rate drives cell mechanosensing through both reinforcement and cytoskeletal softening. Nat Commun. 2021 Jul 9;12(1):4229. ***IF: 17.694*** Quartil: 1st – (Decil 1st) ***Corresponding author**
5. Rey E, Del Pozo-Maroto E, Marañón P, Beeler B, García-García Y, Landete P, Isaza SC, Farré R, García-Monzón C, **Almendros I***, González-Rodríguez Á. Intrahepatic Expression of Fatty Acid Translocase CD36 Is Increased in Obstructive Sleep Apnea. Front Med (Lausanne). 2020 Aug 11;7:450. ***IF: 5.093*** Quartil: 1st - ***Corresponding author**
6. Marhuenda E, Campillo N, Gabasa M, Martínez-García MA, Campos-Rodríguez F, Gozal D, Navajas D, Alcaraz J, Farré R, **Almendros I***. Effects of Sustained and Intermittent Hypoxia on Human Lung Cancer Cells. Am J Respir Cell Mol Biol. 2019;61:540-544. ***IF: 4.340*** Quartil: 1st - ***Corresponding author**
7. Torres M, Campillo N, Nonaka PN, Montserrat JM, Gozal D, Martínez-García MA, Campos-Rodriguez F, Navajas D, Farré R, **Almendros I***. Aging Reduces Intermittent Hypoxia-induced Lung Carcinoma Growth in a Mouse Model of Sleep Apnea. Am J Respir Crit Care Med. 2018 Nov 1;198(9):1234-1236. ***IF: 16.494*** Quartil: 1st - (Decil 1st) ***Corresponding author**
8. Jorba I, Menal MJ, Torres M, Gozal D, Piñol-Ripoll G, Colell A, Montserrat JM, Navajas D, Farré R, **Almendros I***. Ageing and chronic intermittent hypoxia mimicking sleep apnea do not modify local brain tissue stiffness in healthy mice. J Mech Behav Biomed Mater. 2017 Jul;71:106-113. ***IF: 3.239*** Quartil: 1st - ***Corresponding author**
9. Campillo N, Torres M, Vilaseca A, Nonaka PN, Gozal D, Roca-Ferrer J, Picado C, Montserrat JM, Farré R, Navajas D, Almendros I. Role of Cyclooxygenase-2 on Intermittent Hypoxia-Induced Lung Tumor Malignancy in a Mouse Model of Sleep Apnea. Sci Rep. 2017 Mar 16;7:44693. ***IF: 4.122*** Quartil: 1st - ***Corresponding author**
10. **Almendros I**, Wang Y, Becker L, Lennon FE, Zheng J, Coats BR, Schoenfelt KS, Carreras A, Hakim F, Zhang SX, Farré R, Gozal D. Intermittent hypoxia-induced changes in tumor-associated macrophages and tumor malignancy in a mouse model of sleep apnea. Am J Respir Crit Care Med. 2014 Mar 1;189(5):593-601. ***IF: 12.966*** Quartil: 1st (Decil 1st) - **First author**

All 139 publications: (https://www.ncbi.nlm.nih.gov/pubmed/?term=almendros+i)