

## **Marc Miravittles, MD.**

Nacionality: Spanish

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### **ACADEMIC QUALIFICATIONS**

1. July 1986: Graduate in Medicine, University of Barcelona with Honours.
2. December 1991: Specialist in Pneumology, Dept. of Pneumology, Hospital Vall d'Hebron, Barcelona.
3. May 1997: Doctor of Medicine from the Autonomous University of Barcelona after presenting the doctoral thesis, which was passed with Honours.

### **PROFESSIONAL QUALIFICATIONS**

1. April 1988- Dec. 1991: Resident trainee in Pneumology, Dept. of Pneumology, Hospital Vall d'Hebron, Barcelona.
2. Jan. 1992- April 2002: Associated Researcher of the Dept. of Pneumology, Hospital Vall d'Hebron, Barcelona.
3. April 1993- December 2008: Coordinator, Spanish Registry of patients with alpha-1-antitrypsin deficiency.
4. 1995- April 2002: Consultant and Senior Researcher, Dept. of Pneumology, Hospital Vall d'Hebron, Barcelona.
5. 1997- 2017: Spanish representative at the A.I.R. (Alpha-1 antitrypsin deficiency International Registry)
6. May 1999- June 2003: Secretary of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR).
7. May 2002- December 2012: Senior Researcher, Dept. of Pneumology, Hospital Clínic, Barcelona.
8. March 2006- October 2008: Secretary of the Respiratory Infections Group of the European Respiratory Society (ERS).
9. June 2006- June 2012: President of the International Relationships Committee of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR)
10. October 2008- October 2011: Chair of the Respiratory Infections Group of the European Respiratory Society (ERS).
11. September 2015 – September 2018: Guidelines Director of the European Respiratory Society (ERS)
12. December 2012 – Present: Senior Researcher and Consultant Specialist, Pneumology Department. Hospital Universitary Vall d'Hebron/Vall d'Hebron Research Institute (VHIR), Barcelona, Spain.
13. June 2018 – June 2023: Director of the National Integrated Research Project for COPD (PII) of SEPAR.
14. June 2018 – Present: Honorary Professor Universidad Complutense de Madrid (Spain).

### **SCIENTIFIC ACTIVITIES**

**Invited lectures (excluding abstract presentations): 1,660 since 1991.**

### **PARTICIPATION IN GUIDELINES**

1. Second ALAT guidelines of treatment of exacerbations of COPD “Arch Bronconeumol 2004; 40: 315-325”.
2. Guidelines of management of patients with alpha-1-antitrypsin deficiency of the Spanish Society of Pneumology (SEPAR). Arch Bronconeumol 2006; 42: 645-659.
3. Guidelines of management of patients with exacerbations of COPD of the Spanish Society of

Pneumology (SEPAR). (third edition). *Rev Esp Quimioterap* 2007; 20: 93-105.

4. Coordinator of the Spanish Guidelines for treatment of COPD (GesEPOC). First edition *Arch Bronconeumol* 2012; 48 (Supl 1): 2-58. Second edition: *Arch Bronconeumol* 2014; 50 (Supl 1): 1-16. Third edition: *Arch Bronconeumol* 2017; 53: 324-335. Fourth edition: *Arch Bronconeumol*. 2022; 58: 68-91.

5. Guidelines ERS/ATS: Exacerbations of COPD. Published in: Wedzicha JA, et al. Management of COPD exacerbations. *Eur Respir J* 2017; 49: 1600791.

6. Joint Statement for the diagnosis, management, and prevention of chronic obstructive pulmonary disease for Gulf Cooperation Council countries and Middle East-North Africa region, 2017. *Int J Chron Obst Pulm Dis* 2017; 12: 2869-2890.

7. Guidelines ERS/ATS: Prevention of exacerbations of COPD. Published in: Wedzicha J, et al. Prevention of COPD exacerbations. *Eur Respir J* 2017; 50: 1602265.

8. Russian guidelines for the management of COPD: Algorithm of pharmacologic treatment. *Int J Chron Obst Pulm Dis* 2018;13: 183-187.

9. Co-chair of the ERS Official Statement on lung disease associated to alpha-1 antitrypsin deficiency. *Eur Respir J* 2017; 50: 1700610.

10. Co-chair of the ERS Official Guideline on withdrawal of inhaled corticosteroids in COPD. *Eur Respir J* 2020; 35: 2000351.

**PUBLICATIONS LISTED in PubMed: 648**

**Hirsch Index: 99**

**Selected Publications from 2022-2024 only**

Miravittles M, Calle M, Molina J, Almagro P, Gómez JT, Trigueros JA, Cosío BG, Casanova C, López-Campos JL, Riesco JA, Simonet P, Rigau D, Soriano JB, Ancochea J, Soler-Cataluña JJ. Spanish COPD Guidelines (GesEPOC) 2021: Updated Pharmacological treatment of stable COPD. *Arch Bronconeumol*. 2022; 58: 68-91.

Fromme M, Schneider CV, Pereira V, Hamesch K, Pons M, Reichert MC, Benini F, Ellis P, H Thorhauge K, Mandorfer M, Burbaum B, Woditsch V, Chorostowska-Wynimko J, Verbeek J, Nevens F, Genesca J, Miravittles M, Nuñez A, Schaefer B, Zoller H, Janciauskiene S, Abreu N, Jasmins L, Gaspar R, Gomes C, Schneider KM, Trauner M, Krag A, Gooptu B, Thorburn D, Marshall A, Hurst JR, Lomas DA, Lammert F, Gaisa NT, Clark V, Griffiths W, Trautwein C, Turner AM, McElvaney NG, Strnad P. Hepatobiliary phenotypes of adults with alpha-1 antitrypsin deficiency. *Gut*. 2022 Feb;71(2):415-423.

Llor C, Moragas A, Bayona C, Cots JM, Hernández S, Calviño O, Rodríguez M, Miravittles M. Efficacy and safety of discontinuing antibiotic treatment for uncomplicated respiratory tract infections when deemed unnecessary. A multicentre, randomised clinical trial in primary care. *Clin Microbiol Infect*. 2022; 28: 241-247.

Miravittles M, Soler-Cataluña JJ, Soriano JB, García-Río F, de Lucas P, Alfageme I, Casanova C, Rodríguez González-Moro JM, Sánchez-Herrero MG, Ancochea J, Cosío BG. Determinants of blood eosinophil levels in the general population and patients with COPD: a population-based, epidemiological study. *Respir Res.* 2022 Mar 5; 23(1): 49.

Miravittles M, Herepath M, Priyendu A, Sharma S, Vilchez T, Vit O, Haensel M, Lepage V, Gens H, Greulich T. Disease burden associated with alpha-1 antitrypsin deficiency: systematic and structured literature reviews. *Eur Respir Rev.* 2022 Mar 23; 31(163): 210262.

Roncero C, Pérez J, Molina J, Quintano JA, Campuzano AI, Pérez J, Miravittles M. Frequency and Associated Factors of Suicidal Ideation in Patients with Chronic Obstructive Pulmonary Disease. *J Clin Med.* 2022 May 2; 11(9): 2558.

Calle Rubio M, Rodríguez Hermosa JL, Miravittles M, López-Campos JL. Determinants in the Underdiagnosis of COPD in Spain-CONOCEPOC Study. *J Clin Med.* 2022 May 9; 11(9): 2670.

Lopez-Campos JL, Osaba L, Czischke K, Jardim JR, Fernandez Acquier M, Ali A, Günen H, Rapun N, Drobic E, Miravittles M. Feasibility of a genotyping system for the diagnosis of alpha1 antitrypsin deficiency: a multinational cross-sectional analysis. *Respir Res.* 2022 Jun 10; 23(1): 152.

Hanania NA, Miravittles M. Pharmacologic Management Strategies of Asthma-Chronic Obstructive Pulmonary Disease Overlap. *Immunol Allergy Clin North Am.* 2022 Aug; 42(3): 657-669

Miravittles M, Anzueto A. Use of CT Lung Densitometry as Outcome Measure for Emphysema Progression: The Case of Losartan. *Am J Respir Crit Care Med.* 2022; 206: 804-806.

Torres-Durán M, López-Campos JL, Rodríguez-Hermosa JL, Esquinas C, Martínez-González C, Hernández-Pérez JM, Rodríguez C, Bustamante A, Casas-Maldonado F, Barrecheguren M, González C, Miravittles M. Demographic and clinical characteristics of patients with  $\alpha$ 1-antitrypsin deficiency genotypes PI\*ZZ and PI\*SZ in the Spanish registry of EARCO. *ERJ Open Res.* 2022 Sep 26; 8(3): 00213-2022.

Barrecheguren M, Miravittles M. Cancer risk associated with alpha-1-antitrypsin deficiency: only large registries will give us the answer. *Eur Respir J.* 2022 Oct 27; 60(4): 2201289.

Miravittles M, Soler-Cataluña JJ, Soriano JB, García-Río F, de Lucas P, Alfageme I, Casanova C, Rodríguez González-Moro JM, Sánchez G, Ancochea J, Cosío BG. Respiratory symptoms and their determinants in the general Spanish population: changes over 20 years. *ERJ Open Res.* 2022 Nov 14; 8(4): 00067-2022.

Miravittles M, Kawayama T, Dreher M. LABA/LAMA as First-Line Therapy for COPD: A Summary of the Evidence and Guideline Recommendations. *J Clin Med.* 2022 Nov 8; 11(22): 6623.

Gonzalez A, Belmonte I, Nuñez A, Farago G, Barrecheguren M, Pons M, Orriols G, Gabriel-Medina P, Rodríguez-Frías F, Miravittles M, Esquinas C. New variants of alpha-1-antitrypsin: structural simulations and clinical expression. *Respir Res.* 2022 Dec 10; 23(1): 339.

Miravittles M, García-Rivero JL, Ribera X, Galera J, García A, Palomino R, Pomares X. Exercise capacity and physical activity in COPD patients treated with a LAMA/LABA combination: a systematic review and meta-analysis. *Respir Res.* 2022 Dec 15; 23(1): 347.

Miravittles M, Turner AM, Torres-Duran M, Tanash H, Rodríguez-García C, López-Campos JL, Chlumsky J, Guimaraes C, Rodríguez-Hermosa JL, Corsico A, Martinez-González C, Hernández-Pérez JM, Bustamante A, Parr DG, Casas-Maldonado F, Hecimovic A, Janssens W, Lara B, Barrecheguren M,

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- García-Río F, Miravittles M, Soriano JB, Cosío BG, Soler-Cataluña JJ, Casanova C, de Lucas P, Alfageme I, González-Moro JMR, Sánchez G, Ancochea J. Dissociation between physical capacity and daily physical activity in COPD patients. A population-based approach. *Respir Med.* 2023 Jan 4;107115.
- Calle Rubio M, López-Campos JL, Miravittles M, Michel de la Rosa FJ, Hernández Pérez JM, Montero Martínez C, Montoro Ronsano JB, Casas Maldonado F, Rodríguez Hermosa JL, Tabernero Huguet EM, Martínez Sesmero JM, Martínez Rivera C, Callejas González FJ, Torres Durán M. COVID-19's impact on care practice for alpha-1-antitrypsin deficiency patients. *BMC Health Serv Res.* 2023 Jan 30;23(1):98.
- Rodríguez Hermosa JL, Vargas Centanaro G, González Castro ME, Miravittles M, Lázaro-Asegurado L, Jiménez-Rodríguez BM, Rodríguez RA, Moreno Méndez R, Torres-Duran M, Hernández-Pérez JM, Humanes-Navarro AM, Calle Rubio M. Severe COVID-19 Illness and  $\alpha$ 1-Antitrypsin Deficiency: COVID-AATD Study. *Biomedicines.* 2023 Feb 10;11(2):516.
- Cosío BG, Casanova C, Soler-Cataluña JJ, Soriano JB, García-Río F, de Lucas P, Alfageme I, Rodríguez González-Moro JM, Sánchez G, Ancochea J, Miravittles M. Unravelling young COPD and pre-COPD in the general population. *ERJ Open Res.* 2023 Feb 20;9(1):00334-2022.
- José Soler-Cataluña J, Miravittles M, Fernández-Villar A, Izquierdo JL, García-Rivero JL, Cosío BG, López-Campos JL, Agustí A; ANTES panellists. Exacerbations in COPD: a personalised approach to care. *Lancet Respir Med.* 2023 Mar;11(3): 224-226.
- García-Río F, Miravittles M, Soriano JB, Cosío BG, Soler-Cataluña JJ, Casanova C, de Lucas P, Alfageme I, Rodríguez González-Moro JM, Sánchez Herrero MG, Ancochea J; EPISCAN II study. Prevalence of reduced lung diffusing capacity and CT scan findings in smokers without airflow limitation: a population-based study. *BMJ Open Respir Res.* 2023 Jan;10(1): e001468.
- García Castillo E, Alonso Pérez T, Peláez A, Pérez González P, Miravittles M, Alfageme I, Casanova C, G Cosío B, de Lucas P, García-Río F, Rodríguez González-Moro JM, Soler-Cataluña JJ, Sánchez G, Soriano JB, Ancochea J. Trends of COPD in Spain: Changes Between Cross Sectional Surveys 1997, 2007 and 2017. *Arch Bronconeumol.* 2023 Mar;59(3):142-151.
- Miravittles M, Turner AM, Torres-Duran M, Tanash H, Rodríguez-García C, López-Campos JL, Chlumsky J, Guimaraes C, Rodríguez-Hermosa JL, Corsico A, Martinez-González C, Hernández-Pérez JM, Bustamante A, Parr DG, Casas-Maldonado F, Hecimovic A, Janssens W, Lara B, Barrecheguren M, González C, Stolk J, Esquinas C, Clarenbach CF; EARCO study investigators. Characteristics of individuals with alpha-1 antitrypsin deficiency from Northern and Southern European countries: EARCO international registry. *Eur Respir J.* 2023 Mar 30;61(3):2201949.
- Mall MA, Criner GJ, Miravittles M, Rowe SM, Vogelmeier CF, Rowlands DJ, Schoenberger M, Altman P. Cystic fibrosis transmembrane conductance regulator in COPD: a role in respiratory epithelium and beyond. *Eur Respir J.* 2023 Apr 1;61(4):2201307.
- Miravittles M, Hurst JR. Optimal Treatment of the Symptomatic Smoker: Make a Diagnosis Not Empiric Treatment. *Arch Bronconeumol.* 2023 May;59(5):280-281.

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Blanco I, Diego I, Castañón C, Bueno P, Miravittles M. Estimated Worldwide Prevalence of the PI\*ZZ Alpha-1 Antitrypsin Genotype in Subjects with Chronic Obstructive Pulmonary Disease. *Arch Bronconeumol*. 2023 Jul;59(7):427-434.

Rodríguez Hermosa JL, Miravittles M, López-Campos JL, Calle Rubio M. Smoking and COPD Knowledge in the General Spanish Population: A CONOCEPOC Study. *J Clin Med*. 2023 Jul 4;12(13):4473.

Cazzola M, Rogliani P, Barnes PJ, Blasi F, Celli B, Hanania NA, Martinez FJ, Miller BE, Miravittles M, Page CP, Tal-Singer R, Matera MG. Updating the ATS/ERS Task Force Report on Outcomes for COPD Pharmacological Trials. *Am J Respir Crit Care Med*. 2023 Aug 15;208(4):374-394.

Torres-Durán M, López-Campos JL, Calle Rubio M, Montero-Martínez C, Priegue Carrera A, Amaro Rodríguez R, Barrecheguren M, Barrio Guirado MÁ, Callejas-González FJ, Casas-Maldonado F, Diab-Cáceres L, García-Meseguer P, Hernández-Pérez JM, Lázaro-Asegurado L, Martínez-González C, Martínez Rivera C, Michel FJ, Montoro-Ronsano JB, Sánchez R, Ortiz-Pica M, Parra I, Quintero García JP, Ruiz-Serrano-de la Espada MDR, Tortajada-Goitia B, Miravittles M. Recommendations for the Implementation of the Self-Administration of Alpha-1 Antitrypsin. *Int J Chron Obstruct Pulmon Dis*. 2023 Aug 4;18:1691-1700

Stockley RA, Pye A, De Soyza J, Turner AM, Miravittles M; EARCO study investigators. The prevalence of bronchiectasis in patients with alpha-1 antitrypsin deficiency: initial report of EARCO. *Orphanet J Rare Dis*. 2023 Aug 12;18(1):243.

Miravittles M, Acharya S, Aggarwal B, Fernandes FLA, Dreyse J, Jardim JR, Juthong S, Levy G, Sivori M. Clinical Concepts for Triple Therapy Use in Patients with COPD: A Delphi Consensus. *Int J Chron Obstruct Pulmon Dis*. 2023 Aug 28;18:1853-1866.

Miravittles M, Bhutani M, Hurst JR, Franssen FME, van Boven JFM, Khoo EM, Zhang J, Brunton S, Stolz D, Winders T, Asai K, Scullion JE. Implementing an Evidence-Based COPD Hospital Discharge Protocol: A Narrative Review and Expert Recommendations. *Adv Ther*. 2023 Oct; 40(10): 4236-4263.

Miravittles M, Kostikas K, Bizymi N, Tzanakis N. A Novel Figure and Algorithm for the Gold ABE Classification. *Arch Bronconeumol*. 2023; 59: 702-704.

Miravittles M, Martinez-Garcia MA. Chronic bronchial infection in stable COPD: To treat or not to treat. *Pulmonology*. 2023; 29: 449-451.

Rey-Brandariz J, Pérez-Ríos M, Ahluwalia JS, Beheshtian K, Fernández-Villar A, Represas-Represas C, Piñeiro M, Alfageme I, Ancochea J, Soriano JB, Casanova C, Cosío BG, García-Río F, Miravittles M, de Lucas P, Rodríguez González-Moro JM, Soler-Cataluña JJ, Ruano-Ravina A. Tobacco Patterns and Risk of Chronic Obstructive Pulmonary Disease: Results From a Cross-Sectional Study. *Arch Bronconeumol*. 2023; 59: 717-724.

Sampol J, Miravittles M, Sáez M, Pallero M, Sampol G, Ferrer J. Poor sleep quality, COPD severity and survival according to CASIS and Pittsburgh questionnaires. *Sci Rep*. 2023 Oct 31; 13(1): 18656.

Sampol J, Ferrer J, Miravittles M, Sáez M, Romero O, Sampol G. Poor sleep is associated with deficits of attention in COPD patients. *Sleep Med*. 2023 Oct 15; 112: 165-172.

Núñez A, Aljama C, Esquinas C, Orriols G, Gabriel-Medina P, Farago G, Granados G, Rodríguez-Frias F, Pons M, Miravittles M, Barrecheguren M. Utility of the Enhanced Liver Fibrosis score as a blood biomarker of pulmonary fibrosis secondary to SARS-CoV-2 pneumonia. *Respir Med*. 2023 Nov; 218: 107394.

Miravittles M. Improving Outcomes of COPD through the Treatment of Comorbidities: One Step Beyond. *Am J Respir Crit Care Med*. 2023 Nov 15;208(10):1017-1019.

Miravittles M, Matsunaga K, Dreher M. Stepwise management of COPD: What is next after bronchodilation? *Ther Adv Respir Dis*. 2023 Jan-Dec; 17:17534666231208630.

Calle Rubio M, Miravittles M, López-Campos JL, Alcázar Navarrete B, Soler Cataluña JJ, Fuentes Ferrer ME, Rodríguez Hermosa JL. Inhaled Maintenance Therapy in the Follow-Up of COPD in Outpatient Respiratory Clinics. Factors Related to Inhaled Corticosteroid Use. EPOCONSUL 2021 Audit. *Arch Bronconeumol*. 2023 Nov;59(11):725-735.

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Miravittles M, Anzueto A, Barrecheguren M. Nine controversial questions about augmentation therapy for alpha-1 antitrypsin deficiency: a viewpoint. *Eur Respir Rev*. 2023 Dec 6;32(170):230170.

Miravittles M, Criner GJ, Mall MA, Rowe SM, Vogelmeier CF, Hederer B, Schoenberger M, Altman P. Potential systemic effects of acquired CFTR dysfunction in COPD. *Respir Med*. 2023 Dec 15:107499.

Miravittles M, Kostikas K, Bizymi N, Tzanakis N. Reply to Figueroa-Gonçalves and de Miguel-Díez. *Arch Bronconeumol*. 2024; 60: 67-68.

Loeb E, Zock JP, Miravittles M, Rodríguez E, Soler-Cataluña JJ, Soriano JB, García-Río F, de Lucas P, Alfageme I, Casanova C, Rodríguez González-Moro JM, Ancochea J, Cosío BG, Ferrer

Sancho J. Association between occupational exposure and chronic obstructive pulmonary disease and respiratory symptoms in the Spanish population. *Arch Bronconeumol*. 2024 Jan;60(1):16-22.

Papi A, Faner R, Pavord I, Baraldi F, McDonald VM, Thomas M, Miravittles M, Roche N, Agustí A. From treatable traits to GETomics in airway disease: moving towards clinical practice. *Eur Respir Rev*. 2024 Jan 17;33(171):230143.

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Waeijen-Smit K, Cruksen M, Keene S, Miravittles M, Crisafulli E, Torres A, Mueller C, Schuetz P, Ringbæk TJ, Fabbian F, Mekov E, Harries TH, Lun CT, Ergan B, Esteban C, Quintana Lopez JM, López-Campos JL, Chang CL, Hancox RJ, Shafuddin E, Ellis H, Janson C, Suppli Ulrik C, Gudmundsson G, Epstein D, Dominguez J, Lacombe A, Osadnik C, Alia I, Spannella F, Karakurt Z, Mehravarani H, Utens C, de Kruif MD, Ko FWS, Trethewey SP, Turner AM, Bumbacea D, Murphy PB, Vermeersch K, Zilberman-Itskovich S, Steer J, Echevarria C, Bourke SC, Lane N, de Batlle J, Sprooten RTM, Russell R, Faverio P, Cross JL, Prins HJ, Spruit MA, Simons SO, Houben-Wilke S, Franssen FME. Global mortality and readmission rates following COPD exacerbation-related hospitalisation: a meta-analysis of 65 945 individual patients. *ERJ Open Res*. 2024 Feb 26;10(1):00838-2023.

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Barcelona, 1<sup>st</sup> April 2024

I authorize the process of data included in this CV

