

## **CURRICULUM VITAE – SUMMARY**

### **PERSONAL DATA**

Name : Nicolás GONZALEZ MANGADO

Head of Respiratory Service – Sleep Unit Director

Fundacion Jimenez Diaz – Avda. Reyes Catolicos, 2. 28040-Madrid

Tel. (34) 91 549 45 67 - FAX (34) 91 550 49 54; email <<mailto:ngonzalez@fjd.es>>;

FJD WEB: <http://www.capiosanidad.es/fjd/>

[http://www.fjd.es/iis\\_fjd/es/areas-grupos-investigacion/enfermedades-infecciosas-inflamatorias-cronicas](http://www.fjd.es/iis_fjd/es/areas-grupos-investigacion/enfermedades-infecciosas-inflamatorias-cronicas)

### **ACADEMIC BACKGROUND**

Bachelor of Science in Medicine and Surgery: 13 grade Bs, 12 grade As and 2 special mentions. Faculty of Medicine, University of Navarra (June-1975)

Title of specialist in Pulmonology. University Autónoma of Madrid (September-1979). Title of specialist in Internal Medicine University Autónoma of Madrid (March-1979)

Diploma of specialist in Pulmonology/Allergy Fundación Jiménez Díaz (june-1980)

Educational Commission for Medical Graduates

Doctor in Medicine and Surgery. University Autónoma of Madrid. Date: 22-July-1988. *Title of thesis: "CARBON MONOXIDE LUNG DIFFUSING CAPACITY: Influence of alveolar volume and corrector factor, comparison among methods, contributions to standardisation."* Grade: "A", Cum Laude

Sleep expert Certificate (CEAMS)

Associate professor of Medicine. University Autónoma of Madrid (since 1992)

### **CURRENT POSITION**

Head of the Pulmonary Department. Fundacion Jimenez Diaz. Madrid.Spain

Director of Multidisciplinary Sleep Unit. Fundacion Jimenez Diaz. Madrid. Spain

Professor of Medicine University Autónoma of Madrid. Spain

### **RESEARCH EXPERTISE**

Respiratory Medicine. Physiopatology, diagnosis and treatment. Sleep Disorders

CIBERES: Head of 4 Group (Member of the Sleep Group) <http://www.ciberes.org/grupos>

### **RESEARCH AREAS**

Animal models. Physiopathology of the respiratory system. Sleep disorders

### **MOST RELEVANT RESEARCH PROJECTS IN THE LAST YEARS**

- ✓ Evaluación de los mecanismos fisiopatogenicos y del remodelado agudo y cronico del pulmon del raton expuesto a humo de tabaco. SAF2008-05412-C02-02. Date 2009-2011
- ✓ Evaluación in vivo mediante tomografía de fluorescencia molecular de los procesos inflamatorios pulmonares en modelos experimentales".Date 2009-2010. Referencia: SEPAR 2008/
- ✓ Características específicas del análisis metabonómico por medio de resonancia magnetica molecular del condensado del aire exhalado en sujetos con sahs leve, moderado y severo. Date 2009-2010. SEPAR 2008
- ✓ Similitudes y diferencias de la respuesta inflamatoria al tabaco entre cáncer de pulmón y enfermedad pulmonar obstructiva crónica (EPOC). Proyecto CIBERES coordinado multicéntrico. Date 2009-2011. Referencia: FIS PI08/0283.

- ✓ Biomarcadores inflamatorios, de estrés oxidativo y metabonómicos en el aire exhalado en la enfermedad pulmonar obstructiva crónica y el cáncer de pulmón. Proyecto CIBERES coordinado multicéntrico. Date 2009-2011.
- ✓ Características específicas del análisis metabonómico por medio de resonancia magnética molecular del condensado del aire exhalado en sujetos con sahs leve, moderado, severo. González-Mangado N.
- ✓ Estudio Asociación entre los trastornos respiratorios del sueño y la tasa de crecimiento del melanoma cutáneo. 2014-2015
- ✓ Estudio Efecto del tratamiento con CPAP en mujeres con Apnea Obstructiva del sueño. 2014-2015
- ✓ Evaluación del dispositivo de avance mandibular (DAM) en el tratamiento del Síndrome de Apnea Obstructiva del Sueño (SAOS) y su impacto en la hipertensión arterial y en la calidad de vida. González-Mangado N. Co-IP. FISS Nº PII9/00830 (2020-2022)

#### CLINICAL TRAIL LAST YEARS

- ✓ Estudio aleatorizado, doble ciego, controlado con placebo y con grupos paralelos para evaluar la eficacia y la seguridad de **DUPILUMAB** en pacientes con asma persistente. Investigador Principal: Dr. Nicolás González Mangado. Equipo Investigador: E. Javier Pinillos Robles. Promotor SANOFI. Código de protocolo: **EFC13579 ; 2015**
- ✓ Multi-center, randomized, open-label, parallel group, study to assess the effects of philips-respironic's adaptive servo ventilation device (ASV) on mortality and cardiovascular (cv) morbidity in patients with chronic heart failure (hf) who also suffer from sleep apnea. ADVENT Trial. González-Mangado N Date 2012-2015.
- ✓ A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Active Comparator, Parallel-Group Study of the Efficacy and Safety of Lemborexant in Subjects 55 Years and Older with Insomnia Disorder.", 2016-2017. **Eisai Ltd**

#### SELECTED PAPER IN THE LAST YEARS

- ✓ Rubio ML, Sánchez-Cifuentes MV, Peces-Barba G, Verbanck S, Paiva M, González Mangado N. N-Acetylcysteine prevents cigarette smoke-induced small airways alterations in rats" **Eur Respir J** **2000**; 15: 500-511.
- ✓ Lung function and ventilation inhomogeneity in rat lungs after allergen challenge. M.V. Sánchez-Cifuentes, M.L. Rubio, M. Ortega, G. Peces-Barba, M. Paiva, S. Verbank, N. González Mangado **J. Appl. Physiol.** 88, 821-826, 2000.
- ✓ Single-Breath washouts in a rotating stretcher. Rodriguez-Nieto MJ., Peces-Barba G., González Mangado N. Verbank S., Paiva M. **J. Appl. Physiol.** 2001; 90: 1415-1423.
- ✓ Effectiveness of continous positive airway pressure in mild ... Monasterio C., Vidal, S. Durán J., Ferrer M, Carmona C., Barbé F., Mayos M., González Mangado N., et al. **Am. J. Respir. Crit. Care Med.** 2001, 164: 939-943.
- ✓ Similar ventilation distribution in normal subjects prone and supine during tidal breathing. Rodriguez-Nieto MJ., Peces-Barba G., González Mangado N., Paiva M. J., Verbank S. **J Appl Physiol** 2002 Feb;92(2):622-6.
- ✓ Gene therapy with galectin-3 inhibits bronchial obstruction and inflammation in antigen challenged rats through il-5 gene down-regulation . V. del Pozo, M.Rojo,1 M L. Rubio,\* I. Cortegano, B.

- Cárdaba, S. Gallardo, M. Ortega,\* E. Civantos<sup>1</sup>, E. López, C. Martín-Mosquero,\* G. Peces-Barba,\* P. Palomino, N. González-Mangado,\* C. Lahoz. **Am. J. Respir. Crit. Care Med.** 2002, 732-737.
- ✓ Helium-3 MRI diffusion coefficient: correlation to morphometry in a model of mild emphysema. G. Peces-Barba , J. Ruiz-Cabello , Y. Cremlieux, I. Rodriguez, D. Dupuich, V. Callot, M. Ortega , M.L. Rubio Arbo , M. Cortijo, N. Gonzalez-Mangado. **Eur Respir J** 2003; 22: 14-19.
  - ✓ Oral n-acetylcysteine attenuates elastase-induced pulmonary emphysema in rats M. L. Rubio, M. C. Martin-Mosquero, M. Ortega, G. Peces-Barba , N. Gonzalez-Mangado . **Chest** 2004, 125: 1500-1506.
  - ✓ Lower pulmonary diffusing capacity in the prone versus Supine posture. Rodriguez-Nieto MJ., Peces-Barba G, Paiva M. J., Verbank S, González Mangado N. **J. Appl. Physiol** 2004, 96: 1937-1942.
  - ✓ Diffusion-weighted 19F-MRI of lung periphery: Influence of pressure and air–SF6 composition on apparent diffusion coefficients Ruiz-Cabello J, Perez-Sanchez JM, Perez de Alejo R, Rodríguez I, Gonzalez-Mangado N, Peces-Barba G, Cortijo M *Respiratory. Physiology & Neurobiology* : 626, 2005.
  - ✓ Increased Collagen deposition correlated with lung destruction in Human Emphysema Martín-Mosquero C, Peces-Barba, Rubio ML, Ortega M, Rodriguez-Nieto MJ, Martinez-Galán L, Gonzalez-Mangado N. **Histol Histopathol.** 2006;21(8):823-8.
  - ✓ Air travel and respiratory diseases. . García Río F, Borderías Clau L, Casanova Macario C, Celli BR, Escarrabill, Sanglás J, González Mangado N, Roca Torrent J, Uresandi Romero F; Normativa SEPAR. **Arch Bronconeumol** 2007 Feb;43(2):101-25. (Normativa).
  - ✓ Improving the cadmium-induced centriacinar emphysema model in rats Heili Frades S, Del Puerto-Nevado L, Pérez-Rial S, Martin-Mosquero C, Ortega, Martinez-Galán L, Rubio ML, Rodriguez Nieto MJ, by concomitant anti-oxidant treatment. **Clin Exp Pharmacol Physiol.** 2008;35(11):1337-42.
  - ✓ Martínez-García MÁ, Amilibia J, Chiner E, Queipo C, Díaz de Atauri MJ, Carmona-Bernal C, Mayos M, García-Río F, Hernández Blasco L, Grau N, Mosteiro M, Durán-Cantolla J, González-Mangado N, Somoza M, Zamora E, Fernández-Jorge MÁ. [Sleep apnoea in patients of elderly: care activity in Spain (2002-2008)]. *Arch Bronconeumol.* 2010 Oct;46(10):502-7. Epub 2010 Aug 3. Spanish. PubMed PMID: 20678851.
  - ✓ Martínez-Galán L, del Puerto-Nevado L, Pérez-Rial S, Díaz-Gil JJ, González-Mangado N, Peces-Barba G. [Liver growth factor improves pulmonary fibrosis secondary to cadmium administration in rats]. *Arch Bronconeumol.* 2010 Jan;46(1):20-6. Spanish. PubMed PMID: 20034722. J
  - ✓ Jose L. Izquierdo-García, Laura del Puerto-Nevado, Germán Peces-Barba, Sandra Pérez-Rial , Sarah Heili, Palmira Villa, David Castejón, Nicolás González-Mangado, Jesús Ruiz-Cabello. A metabonomic approach to evaluate COPD in a model of cigarette smoke exposure in mice. **Metabolomics** (2010) 6:564–573.
  - ✓ Pérez-Rial S, Del Puerto-Nevado L, González-Mangado N, Peces-Barba G. Early Detection of susceptibility to acute lung inflammation by molecular imaging in mice exposed to cigarette smoke. **Mol Imaging.** 2011 Oct 1;10(5):398-405. doi: 10.2310/7290.2011.00010. PubMed PMID: 21914430.
  - ✓ Barreiro E, del Puerto-Nevado L, Puig-Vilanova E, Pérez-Rial S, Sánchez F, Martínez-Galán L, Rivera S, Gea J, González-Mangado N, Peces-Barba G. Cigarette smoke-induced oxidative stress in skeletal muscles of mice. **Respir Physiol Neurobiol.** 2012 Jun 15;182(1):9-17. doi: 10.1016/j.resp.2012.02.001. Epub 2012 Feb 18. PubMed PMID: 22349133

- ✓ García-Río F, Calle M, Burgos F, Casan P, Del Campo F, Galdiz JB, Giner J, González-Mangado N, Ortega F, Puente Maestu L. Spirometry. Normativa SEPAR (national Guide ) Arch Bronconeumol. 2013 May 28. doi:pii: S0300-2896(13)00117-8. 10.1016/j.arbres.2013.04.001. [Epub ahead of print] English, Spanish. PubMed PMID: 23726118.
- ✓ Ferrarini A, Ruperez FJ, Erazo M, Martinez MP, Villar-Álvarez F, Peces-Barba G, González-Mangado N, Troncoso MF, Ruiz-Cabello J, Barbas C. Fingerprinting based metabolomic approach with lc-ms to sleep apnea and hypopnea syndrome: A pilot study. **Electrophoresis**. 2013 Jun 17. doi: 10.1002/elps.201300081. [Epub ahead of print] PubMed PMID: 23775633.
- ✓ González Mangado N, Troncoso Acevedo MF, Gómez García T. Home Ventilation Therapy in Obstructive Sleep Apnea-Hypopnea Syndrome. **Arch Bronconeumol**. 2014 Jul 21. pii: S0300-2896(14)00225-7. doi: 10.1016/j.arbres.2014.06.003. [Epub ahead of print] English, Spanish. PubMed PMID: 25059585.
- ✓ Pérez-Rial S, Del Puerto-Nevaldo L, Girón-Martínez A, Terrón-Expósito R, Díaz-Gil JJ, González-Mangado N, Peces-Barba G. Liver growth factor treatment reverses emphysema previously established in a cigarette smoke exposure mouse model. **Am J Physiol Lung Cell Mol Physiol**. 2014 Nov 1;307(9):L718-26. doi: 10.1152/ajplung.00293.2013. Epub 2014 Aug 29. PubMed PMID: 25172913.
- ✓ Masa JF, Duran-Cantolla J, Capote F, Cabello M, Abad J, Garcia-Rio F, Ferrer A, Mayos M, Gonzalez-Mangado N, de la Peña M, Aizpuru F, Barbe F, Montserrat JM; on behalf of the Spanish Sleep Network. Effectiveness of Home Single-Channel Nasal Pressure for Sleep Apnea Diagnosis. **Sleep**. 2014 Oct 17. pii: sp-00399-13. [Epub ahead of print] PubMed PMID: 25325484.
- ✓ Girón-Martínez A, Pérez-Rial S, Terrón-Expósito R, Díaz-Gil JJ, González-Mangado N, Peces-Barba G. Proliferative Activity of Liver Growth Factor is Associated with an Improvement of Cigarette Smoke-Induced Emphysema in Mice. **PLoS One**. 2014 Nov 17;9(11):e112995. doi: 10.1371/journal.pone.0112995. eCollection 2014. PubMed PMID: 25401951.
- ✓ López-Jiménez MJ, Masa JF, Corral J, Terán J, Ordaz E, Troncoso MF, González-Mangado N; a; Grupocooperativo. Mid- and Long-Term Efficacy of Non-Invasive Ventilation in Obesity Hypoventilation Syndrome: The Pickwick's Study. Arch **Bronconeumol**. 2015 Dec 4. pii: S0300-2896(15)00446-9. doi: 10.1016/j.arbres.2015.10.003. [Epub ahead of print] English, Spanish. PubMed PMID: 26656679.
- ✓ González Mangado N, Egea Santaolalla C, Chiner Vives E, Capelastegui A, de Lucas Ramos P. Protocolo SEPAR de control y seguimiento de las terapias respiratorias domiciliarias. **Síndrome de apnea-hipopnea del sueño** Monogr ArchBronconeumol. 2015;2(5):156-179
- ✓ Egea Santaolalla C, Chiner Vives E, Díaz Lobato S, González-Mangado N, Capelastegui A, de Lucas Ramos P. Protocolo SEPAR de control y seguimiento de las terapias respiratorias domiciliarias: **Ventilación mecánica a domicilio**. Monogr Arch Bronconeumol. 2015;2(5):180-204
- ✓ Masa JF, Corral J, et a; Collaborators: Gonzalez-Mangado N . SpanishSleep Network. Efficacy of Different Treatment Alternatives for ObesityHypoventilation Syndrome: Pickwick Study. **Am J RespirCrit Care Med**. 2015 Apr 27. [Epub ahead of print] PubMed PMID: 25915102.
- ✓ Masa JF, Duran-Cantolla J, Capote F, Cabello M, Abad J, Garcia-Rio F, FerrerA, Fortuna AM, Gonzalez-Mangado N, de la Peña M, Aizpuru F, Barbe F, MontserratJM; SpanishSleep Network. Efficacy of home single-channel nasal pressure for recommending continuous positive airway pressure treatment in sleep apnea. **Sleep**. 2015 Jan 1;38(1):13-21. doi: 10.5665/sleep.4316. PubMed PMID: 25325508; PubMed Central PMCID: PMC4262946.

- ✓ Masa JF, Corral J, Romero A, Caballero C, Terán-Santos J, Alonso-Álvarez ML, Gomez-García T, González M, López-Martínez S, De Lucas P, Marin JM, Martí S, Díaz-Cambriles T, Chiner E, Merchan M, Egea C, Obeso A, Mokhlesi B; Spanish Sleep Network, García-Ledesma, Sánchez-Quiroga MÁ, Ordax E, González-Mangado N, Troncoso MF, Martínez-Martínez MÁ, Cantalejo O, Ojeda E, Carrizo SJ, Gallego B, Pallero M, Ramón MA, Díaz-de-Atauri J, Muñoz-Méndez J, Senent C, Sancho-Chust JN, Ribas-Solis FJ, Barrot E, Benítez JM, Sanchez-Gómez J, Golpe R, Santiago-Recuerda A, Gomez S, Bengoa M. Protective cardiovascular effect of sleep apnea severity in obesity hypoventilation syndrome. **Chest.** **2016** Feb 25. pii: S0012-3692(16)01267-8. doi: 10.1016/j.chest.2016.02.647. [Epub ahead of print] PubMed PMID: 26923627.
- ✓ Pérez-Warnisher MT, Gómez-García T, Giraldo-Cadavid LF, Troncoso Acevedo MF, Rodríguez Rodríguez P, Carballosa de Miguel P, González Mangado N. Diagnostic accuracy of nasal cannula versus microphone for detection of snoring. **Laryngoscope.** **2017 Jul 21.** doi: 10.1002/lary.26710. [Epub ahead of print] PubMed PMID: 28731530. **Q1 D1**
- ✓ Cabezas E, Pérez-Warnisher MT, Troncoso MF, Gómez T, Melchor R, Pinillos EJ, El Hachem A, Gotera C, Rodríguez P, Mahillo Fernández I, Martínez-García MÁ; González-Mangado, Peces-Barba G, Seijo LM. Sleep Disordered Breathing Is Highly Prevalent in Patients with Lung Cancer: Results of the Sleep Apnea in Lung Cancer Study. **Respiration.** **2018** Sep 27:1-6. doi: 10.1159/000492273. [Epub ahead of print] PubMed PMID: 30261487.
- ✓ Masa JF, Mokhlesi B, Benítez I, Gomez de Terreros FJ, Sánchez-Quiroga MÁ, Romero A, Caballero-Eraso C, Terán-Santos J, Alonso-Álvarez ML, Troncoso MF, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambriles T, Chiner E, EgeaC, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbe F, Corral J; Spanish Sleep Network. Long-term clinical effectiveness of continuous positive airway pressure therapy versus non-invasive ventilation therapy in patients with obesity hypoventilation syndrome: a multicentre, open-label, randomised controlled trial. **Lancet.** **2019** Apr 27;393(10182):1721-1732. doi: 10.1016/S0140-6736(18)32978-7. Epub 2019 Mar 29. PubMed PMID: 30935737.
- ✓ Pérez-Warnisher MT, Cabezas E, Troncoso MF, Gómez T, Melchor R, Pinillos EJ, El Hachem A, Gotera C, Rodriguez P, Mahillo I, González-Mangado N, Peces-Barba G, Seijo LM. Sleep disordered breathing and nocturnal hypoxemia are very prevalent in a lung cancer screening population and may condition lung cancer screening findings: results of the prospective Sleep Apnea In Lung Cancer Screening (SAILS) study. **Sleep Med.** **2019** Feb;54:181-186. doi: 10.1016/j.sleep.2018.10.020. Epub 2018 Nov 3. PubMed PMID: 30580192.
- ✓ Seijo LM, Pérez-Warnisher MT, Giraldo-Cadavid LF, Oliveros H, Cabezas E, Troncoso MF, Gómez T, Melchor R, Pinillos EJ, El Hachem A, Gotera C, Rodriguez P, González-Mangado N, Peces-Barba G. Obstructive sleep apnea and nocturnal hypoxemia are associated with an increased risk of lung cancer. **Sleep Med.** **2019** Nov;63:41-45. doi: 10.1016/j.sleep.2019.05.011. Epub 2019 Jun 6. PubMed PMID: 31605903.
- ✓ Heili-Frades S, Suarez-Sipmann F, Santos A, Carballosa MP, Naya-Prieto A, Castilla-Reparaz C, Rodriguez-Nieto MJ, González-Mangado N, Peces-Barba G. Continuous monitoring of intrinsic PEEP based on expired CO<sub>2</sub> kinetics: an experimental validation study. **Crit Care.** **2019** May 29;23(1):192. doi: 10.1186/s13054-019-2430-9. PubMed PMID: 31142337; PubMed Central PMCID: PMC6540388.
- ✓ Perger E, Lyons OD, Inami T, Smith S, Floras JS, Logan AG, Bradley TD; ADVENT-HF Investigators; ADVENT-HF Trial Executive Committee;; ADVENT-HF Steering Committee;; ADVENT-HF Data and Safety Monitoring Committee;; ADVENT-HF Event Adjudication Committee;; ADVENT-HF Investigators;. Predictors of 1-year compliance with adaptive servoventilation in patients with heart

failure and sleep disordered breathing: preliminary data from the ADVENT-HF trial. **Eur Respir J.** **2019** Feb 21;53(2). pii: 1801626. doi: 10.1183/13993003.01626-2018. Print 2019