

**Part A. PERSONAL INFORMATION**

<b>CV date</b>	6-10-2019
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First and Family name	Oscar Lorenzo González		
Social Security, Passport, ID number	50456656-S	Age	46
Researcher codes	WoS Researcher ID (*)		
	SCOPUS Author ID(*)	54379474900	
	Open Researcher and Contributor ID (ORCID) **	0000-0001-5515-6078	

(\*) At least one of these is mandatory

(\*\*) Mandatory

**A.1. Current position**

Name of University/Institution	Universidad Autónoma de Madrid		
Department	Medicine, IIS-Fundación Jiménez Díaz		
Address and Country	Av. Reyes Católicos 2, Madrid 28040, Spain		
Phone number	915504800 ext 2818	E-mail	<a href="mailto:Oscar.lorenzo@uam.es">Oscar.lorenzo@uam.es</a>
Current position	Professor and Researcher	From	2011
Key words	Diabetes, Cardiovascular pathologies		

**A.2. Education**

PhD	University	Year
Biochemistry	Universidad Autónoma de Madrid	2001

**A.3. JCR articles, h Index, thesis supervised (from 2009)**

JCR publications: 41

H-index: 32; Citations: 4,126 (Scopus)

Number of thesis supervised: 3; Number of current thesis supervised: 5

**Part B. CV SUMMARY** (max. 3500 characters, including spaces)

Since 2006, coinciding with my stabilization contract as postdoctoral researcher by the "Ramón y Cajal" Program, I have been directing the research group Study of Diabetic Cardiomyopathy (DCM) at the IIS-Fundación Jiménez Díaz (Univ. Autónoma de Madrid). Our main interest focused on analyzing the effect of diabetes and obesity on the cardiovascular system, mainly on the myocardium. The cardiovascular complications of the diabetic patient are the main cause of morbidity and mortality, and represent the greatest investment in our health system. However, there is no specific therapy or diagnostic method for these patients. Now, as Associated Professor, I am trying to deep on potential molecular mechanisms and mediators involved in the different cardiac responses to diabetes/obesity, and on the search of new plasma biomarkers for prediction and diagnosis of DCM. We have found interesting data on prospective therapies based on incretin stabilization. Some incretins may exhibit cardioprotective insulin-dependent and -independent effects. They can balance cardiac glucose and fatty acid assimilation to reduce mitochondrial injury. In this sense, we are now focused on SGLT2 inhibitors, which could directly attenuate mitochondrial damage by improving energetic and respiratory pathways. Also, certain molecules could be specifically secreted from diabetic myocardium and serve as diagnostic or prognostic biomarkers.

I belong to the Biomedical Research Network in Diabetes and Metabolic Diseases (CIBERDEM), and maintain active collaborations with national and international groups in the area, such as CIB, CIEMAT, and Mount Sinai Hospital (New York) and Universities of Cairo and Sao Paulo, for the exchange of pre/post-doctoral students, and for collaborative projects (i.e., CEAL, FAPESP). I have been invited by several Universities (i.e. Havana, Cairo, Sao Paulo, Sfax) to give plenary sessions about my advances in DCM. I am supervising the Thesis of 5 students from Medicine, Nutrition and Biochemistry degrees, and every course, I also supervise several Master thesis and Graduate thesis in relation with this line of research.



## Part C. RELEVANT MERITS

### C.1. Publications (including books). Most relevant from 2009

- 1- Lorenzo-Almorós A., Hang T., Peiró C., Soriano-Guillén L., Egido J., Tuñón J., Lorenzo O. Predictive and diagnostic biomarkers for gestational diabetes and its associated metabolic and cardiovascular diseases. *Cardiovasc Diabetol*. 2019. CVDB-D-19-00432.
- 2- Z. Moreno-Villegas, A. Martín-Duce, C. Aparicio, S. Portal-Núñez, R. Sanz, SA. Mantey, RT. Jensen, O. Lorenzo, J. Egido, N. González. Activation of Bombesin Receptor Subtype-3 by [D-Tyr6, beta-Ala11, Phe13, Nle14]bombesin6-14 increased glucose uptake and lipogenesis in human and rat adipocytes. *Mol Cell Endocrinol*. 2018 Oct 15;474:10-19.
- 3- E. Ramirez, B. Picatoste, A. González-Bris, M. Oteo, F. Cruz, A. Caro-Vadillo, J. Egido, J. Tuñón, MA. Morcillo, O. Lorenzo. Sitagliptin improved glucose assimilation in detriment of fatty-acid utilization in experimental type-II diabetes. Role of GLP-1 isoforms in Glut4 receptor trafficking. *Cardiovasc Diabetol*. 2018 Jan 11;17(1):12.
- 4- C. Peiró, O. Lorenzo, R. Carraro, C.F. Sánchez-Ferrer. IL-1 $\beta$  inhibition in cardiovascular complications associated to diabetes mellitus. *Front Pharmacol*. 2017 Jun 13;8:363.
- 5- Lorenzo-Almorós A, Tuñón J, Orejas M, Cortés M, Egido J, Lorenzo Ó. Diagnostic approaches for diabetic cardiomyopathy. *Cardiovasc Diabetol*. 2017 Feb 23;16(1):28.
- 6- Pello Lázaro AM, Cristóbal C, Franco-Peláez JA, Tarín N, Aceña Á, Carda R, Huelmos A, Martín-Mariscal ML, Fuentes-Antras J, Martínez-Millá J, Alonso J, Lorenzo Ó, Egido J, López-Bescós L, Tuñón J. Use of proton-pump inhibitors predicts heart failure and death in patients with coronary artery disease. *PLoS One*. 2017 Jan 19;12(1):e0169826.
- 7- Tuñón J, González-Hernández I, Llanos-Jiménez L, Alonso-Martín J, Escudier-Villa JM, Tarín N, et al. Design and rationale of a multicentre, randomized, double blind, placebo-controlled clinical trial to evaluate the effect of vitamin D on ventricular remodeling in patients with anterior myocardial infarction: The VITamin D in Acute Myocardial Infarction (VITDAMI) trial. *BMJ Open* 2016.
- 8- Martín-Reyes R, Franco-Peláez JA, Lorenzo Ó, González-Casas ML, Pello AM, Aceña Á, et al. Plasma levels of monocyte chemoattractant protein-1, n-terminal fragment of brain natriuretic peptide and calcidiol are independently associated with the complexity of coronary artery disease. *PLoS One*. 2016 May 12;11(5):e0152816.
- 9- Tuñón J., Higuera J., Tarín N., Cristóbal C., Lorenzo O., Blanco-Colio L., et al. N-terminal Pro-brain Natriuretic Peptide Is Associated With a Future Diagnosis of Cancer in Patients with Coronary Artery Disease. *PLoS One*. 2015 Jun 5;10(6):e0126741.
- 10- Fuentes-Antrás J., Picatoste B., Ramírez E., Egido J., Tuñón J., Lorenzo O. Targeting metabolic disturbance in the diabetic heart. *Cardiovasc Diabetol*. 2015 Feb 7;14(1):17.
- 11- E. Ramirez, M. Klett-Mingo, S. Ares-Carrasco, B. Picatoste, A. Ferrarini, FJ. Rupérez, A. Caro-Vadillo, C. Barbas, J. Egido, J. Tuñón and Ó. Lorenzo. Eplerenone attenuated cardiac steatosis, apoptosis and diastolic dysfunction in experimental type-II diabetes. *Cardiovasc Diabetol* 2013 Nov 21;12(1):172.
- 12- Picatoste B, Ramírez E, Caro-Vadillo A, Iborra C, Egido J, Tunon J, Lorenzo O. Sitagliptin Reduces Cardiac Apoptosis, Hypertrophy and Fibrosis Primarily by Insulin-Dependent Mechanisms in Experimental type-II Diabetes. Potential Roles of GLP-1 Isoforms. *PLoS One* 2013 Oct 21;8(10):e78330.
- 13- Ares-Carrasco S., Picatoste B., Camafeita E., Carrasco-Navarro S., Zubiri I., Ortiz A., Egido J., López JA., Tuñón J. and Lorenzo O. Proteome changes in the myocardium of experimental chronic diabetes and hypertension. Role of PPAR $\alpha$  in the associated hypertrophy. *Journal of Proteomics*. 2012 Mar 16;75(6):1816-29.
- 14- J. Tuñón, JL. Martín-Ventura, LM. Blanco-Colio, O. Lorenzo, JA. López, J. Egido. Proteomic strategies in the search of new biomarkers in atherothrombosis. *J Am Coll Cardiol*. 2010 May 11;55(19):2009-16.
- 15- Ares-Carrasco S, Picatoste B, Benito-Martín A, Zubiri I, Sanz AB, Sanchez-Miño MD, Ortiz A, Egido J, Tuñón J, Lorenzo O. Myocardial fibrosis and apoptosis, but not inflammation, are present in long-term experimental diabetes. *Am J Physiol Heart Circ Physiol*. 2009 Oct 9.

### C.2. Research projects and grants (from 2009)

#### International Projects as Principal Investigator:

- 1- Title: Molecular bases of renal tubular cells after glucagon-like protein-1 (GLP-1) stimulation under physiologic, pharmaceutical and pathological conditions (Ref. 2016/22140)



Participant entities: Instituto do Coração do Hospital das Clínicas de São Paulo from Univ. de Sao Paulo, University of Southern California/USC, IIS-Fundación Jiménez Díaz  
PIs: 4 researchers from Brazil y 1 from USA, and 1 from Spain (Óscar Lorenzo)  
Funding entity: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). Dates: 01/06/2017 - 31/05/2022

National projects as Principal Investigator:

1- Title: Potential cardioprotective effects of incretins on diabetic cardiomyopathy (CEAL-AL/2015-17)

Participant entities: IIS-Fundación Jiménez Díaz in collaboration with Instituto do Coração do Hospital das Clínicas de São Paulo (Univ. de Sao Paulo)

Funding entity: Universidad Autónoma de Madrid-Banco de Santander. Dates: 01/07/2015 - 31/12/2017

2- Title: Diabetic cardiomyopathy; molecular mechanisms and biomarkers

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Spanish Ministry of Education and Health (SAF2009-08367)

Dates: 01/01/2010 - 31/12/2012

3- Title: Proteomic approach to the experimental study of diabetic and hypertensive myocardia

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Universidad Autónoma Madrid-Comunidad Autónoma de Madrid (CCG10-UAM/BIO-5289). Dates: 01/01/2011 - 31/12/2011

4- Title: Intracellular pathways activated on the diabetic and hypertensive hearts

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Universidad Autónoma Madrid-Comunidad Autónoma de Madrid (CCG07-UAM/BIO-1594). Dates: 01/01/2008 - 31/12/2008

5- Title: Study of molecular mechanisms associated to myocardial ventricular hypertrophy secondary to pressure overload. Role of TGFb

Participant entities: Hospital Universitario Marqués de Valdecilla

Funding entity: Instituto de Salud Carlos III (FISS PI06-0240). Dates: 01/01/2007 - 31/12/2009

National projects as Research Collaborator:

1- Title: Diabetes & Cancer Connect; targeting common inflammatory markers and signalling pathways in diabetes and cancer. PI: Jesús Egido

Participant entities: IIS-Fundación Jiménez

Funding entity: Instituto de Salud Carlos III, FISS (PIE13/00051). Dates: 1/01/2014-31/12/2016

2- Title: Prevalence and prognostic value of altered levels of Klotho and other components of the bone metabolism in patients with stable coronary disease (BACS-BAMI study). PI: José Tuñón

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Spanish Society of Cardiology. Dates: 01/09/2016 - 31/12/2017

3- Title: Plasma MicroRNAs as predictors of cardiovascular events in patients with ischemic cardiopathy. PI: José Tuñón

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Spanish Society of Cardiology. Dates: 01/01/2011 - 31/12/2011

4- Title: Role of vitamin D in the cardiovascular function of patients with acute myocardial infarct VITDAMI: Vitamin D In Acute Myocardial Infarction study. PI: José Tuñón

Participant entities: IIS-Fundación Jiménez Díaz

Funding entity: Spanish Society of Cardiology. Dates: 01/01/2015 - 31/12/2016

**C.3. Contracts (from 2009)**

National contracts as Principal Investigator:

1- Title: Plasma biomarkers and molecular mechanisms involved in the evolution of obese patients after gastric bypass intervention (Ref.: 10.04.03.0013)

Participant entities: IIS-Fundación Jiménez Díaz and Hospital Rey Juan Carlos

Funding entity: Spanish Society of Obesity Surgery. Dates: 01/07/2019 - 01/07/2022

2- Title: Prognostic value of cardiovascular events by detection of plasma biomarkers in diabetic patients with acute coronary syndrome



Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Laboratory of Dr. Esteve (Ref.: 1004060028). Dates: 01/10/2016 - 01/10/2019  
3- Title: Potential cardioprotective actions of vildagliptin in diabetic cardiomyopathy  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Laboratory of Dr. Esteve (Ref.:1004060027). Dates: 01/06/2016 - 31/12/2017  
4- Title: Effects of bariatric surgery on incretin system, microbiota and cardiovascular function of obese patients  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Laboratory of Dr. Esteve (Ref.: 1004060029). Dates: 01/06/2017 - 30/11/2020  
5- Title: Effects of bariatric surgery on incretin system, microbiota and cardiovascular function of obese patients  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Vegenat (Ref.:1004060030). Dates: 28/02/2018 - 31/12/2018  
6- Title: Protective effects of sitagliptin on the cardiovascular system  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Merck.Sharp.:D1 (Ref.004 060030). Dates: 06/05/2009 - 31/12/2010  
7- Title: Protective effects of eplerenone on the diabetic myocardium  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Pfizer (Ref.:1004060030). Dates: 12/09/2008 - 31/12/2009

#### National contracts as Research Collaborator:

1- Title: Dietary intervention on patients with Huntington disease. PI: Clotilde Vázquez  
Participant entities: IIS-Fundación Jiménez Díaz  
Funding entity: Persan Farma. Dates: 01/01/2017- 01/12/2017

#### **C.4. Management of Scientific Activity**

- Vice-dean of Postgraduate Studies, School of Medicine. Universidad Autónoma de Madrid (2015-2019).
- Member of Research Commission in the IIS-Fundación Jiménez Díaz (2010-2018)
- Sub-director of the Master's degree in "Advanced Patient Care in Anesthesia, Resuscitation and Pain Treatment", IIS-Fundación Jiménez Díaz
- Academic secretary of the Master's degree in "Patient management and care with vascular access devices", IIS-Fundación Jiménez Díaz

#### **C.5. Scientific Societies**

- Membership of the Biomedical Research Centre in Diabetes Network and Associated Metabolic Diseases. PI: Jesús Egido, Madrid
- Membership of the Spanish Society of Atherosclerosis

#### **C.6. Research Awards**

- BIAL European Prize for cardiovascular research (2000)
- National Awards of Basic Nephrology Hospital (2003 and 1997).
- Awards for Congress Communications: American Society of Hypertension (1999), International Congress of Hypertension (1998), Congress of the Spanish Society of Cardiology (1998, 2000, 2001, 2002) and Congress of the Spanish Society of Atherosclerosis (1998 and 2002).

#### **C.7. Stays in foreign centres**

1. Postdoctoral stay: Physiology Department of the University of Liverpool (Prof. MJ. Clague). Topic: Molecular mechanisms involved in cancer. Role of myotubularins. Duration: 3 years and 8 months (2002-2005)
2. Postdoctoral stay: Biochemistry Department of the University of Birmingham (Prof. S. Dove). Topic: Analysis of the interaction domains of myotubularin-3 and the PI5P substrate. Duration: 2 months (2002)
3. Predoctoral stay: Mater Hospital. University of Dublin (Prof. H. Brady). Topic: Mechanisms of stretching in vascular smooth muscle cells after stimulation with angiotensin-II. Duration: 3 months (2000)