CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	José		
Family name	Lopez Barneo		
Gender (*)	Male	Birth date (dd/mm/yyyy)	21/02/1952
Social Security, Passport, ID number	25915727V		
e-mail	lbarneo@us.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-4101-6095	

(*) Mandatory

A.1. Current position

Position	Professor of Physiology and Biophysics (emeritus with a contract since Oct. 2022). Senior group leader (Instituto de Biomedicina de Sevilla -IBiS- Hospital Universitario Virgen del Rocío/CSIC/ Universidad de Sevilla)			
Initial date	1986/2006			
Institution	University of Seville			
Department/Center	Physiology and Biophysics	Medical School		
Country	Spain		Telephone number	+34955923032
Key words	Oxygen sensing, arterial chemoreceptors, neurodegeneration, trophic factors, dopamine, cellular neurobiology, ion channels, mitochondria			

A.2. Previous positions (year/position)

2020-2022 Professor and Group leader at IBiS
2006-2020 Professor, Group leader, Coordinator of Research at University Hospital Virgen del Rocío (HUVR), IBiS Director
2016-2016 Visiting Professor (from March 1st to August 31st), Dep. of Biology. Columbia University, New York, NY, USA
1999-2006 Professor, Coordinator of Research at HUVR
1997-2001 Professor, Chairman (Dpt. Medical Physiology and Biophysics, University of Seville Medical School)
1992-1997 Professor (Dpt. Medical Physiology and Biophysics, University of Seville Medical School)
1991-1992 Visiting Professor (form August 1st 91 to August 31st 92), Dep. of Cellular and Molecular Physiology. Stanford University Medical School, Palo Alto, CA, USA
1987-1991 Professor, Chairman (Dpt. Medical Physiology and Biophysics, University of Seville Medical School)
1983-1986 Associate Professor (Dpt. Medical Physiology and Biophysics, University of Seville Medical School)
1980-1983 Postdoctoral worker and Research Associate. Dpt. Physiology, Univ. Pennsylvania Med. School, Philadelphia, PA, USA; Marine Biological Laboratory, Woods Hole, MA, USA, Dpt. Physiology and Biophysics, New York University Medical Center, New York, NY, USA.

A.3. Education (Degree/Place/Year)

Doctorate (Ph.D.) University of Seville 1975-1978
Medical Doctor University of Seville 1969-1975

Part B. CV SUMMARY

José López-Barneo (MD & PhD) has been a Full Professor of Medical Physiology and Biophysics at the University of Seville Medical School (1986-2022), General Coordinator of Research at the University Hospital Virgen del Rocío (1999-2022) and founding director of the Institute of Biomedicine of Seville (IBiS) (2006-2020). Currently, he has a contract as Emeritus Professor at the University of Seville. Between 1978-1983 he did postdoctoral stays at the CNRS (Paris), University of Pennsylvania Medical School (Philadelphia) and New York University Medical Center (New York). He has been a visiting professor at Stanford University School of Medicine (Palo Alto, Ca) and Columbia University (New York). Dr. López-Barneo main research interests are related to the study of the mechanisms of acute oxygen sensing in mammals, specifically by cells in the carotid body and other peripheral chemoreceptor organs, as well as the cellular adaptations to hypoxia. He also works on the modulation by hypoxia of the peripheral and central neurogenic centers and the molecular bases of dopaminergic neuroprotection and neurodegeneration. Within these lines his work, carried out almost entirely from Spain, has had an important international impact; especially that related to the molecular mechanisms responsible for the acute detection of changes in oxygen tension, a field in which Dr. López Barneo's group has a clear international leadership position. Dr. López-Barneo has served as an editor in the Journal of Physiology, Pflügers Archiv/European Journal of Physiology and Physiological Reviews, among other scientific journals. Some of his most representative academic awards are: the national research prize King Juan Carlos I (1993), Medal of Andalucía (1993) (another one in 2019 in representation of IBiS), national research prize King Jaime I (1998), research prize Maimonides of the Andalusian Government (2002), and Medal of the Order of Civil Merit by King Felipe VI (2015). He has been past President of the Spanish Neuroscience Association and the Spanish Society for Gene and Cell Therapy, as well as founding Director of CIBERNED (Spanish Excellence Network for Research on Neurodegenerative Diseases). He is a member of the Academia Europea (1997), the European Molecular Biology Organization (2000), Royal Academy of Sciences of Seville (2005), Royal Academy of Medicine and Surgery of Seville (2010), corresponding member of the National Royal Academy of Sciences (2005) and doctor Honoris Causa by the University of Jaén (2018). Dr. López-Barneo has received grants from the Andalusian, Spanish and European Governments as well as the Juan March and Botín Foundations. Between 2016-2021 he was awarded an Advanced Grant of the European Research Council. In 2023, López-Barneo has received the National Research Prize Santiago Ramón y Cajal. For over 40 years Dr. López-Barneo has carried out a fruitful work related with the training of new scientists, as 33 PhD students and more than 25 postdocs or visiting professors have been working in his laboratory. In addition, he has also carried out an intense and highly appreciated teaching activity (PhD students and undergraduate medical students) on Medical Physiology and Biophysics at the Faculty of Medicine of Seville.

Part C. RELEVANT MERITS

C.1. Publications

Publications can be found in PubMed under the name Lopez Barneo J. In most of these articles I have a relevant position (either as the first or the corresponding author). In many occasions these articles appear in generalized high-profile journals. The most important contributions in the last 10-year period (2014-2023) are:

1. Jiménez-Gómez B, Ortega-Sáenz P, Gao L, González-Rodríguez P, García-Flores P, Chandel N, López-Barneo J. Transgenic NADH dehydrogenase restores oxygen regulation of breathing in mitochondrial complex I-deficient mice. Nature Communications, 2023; 14(1):1172. (Article)
2. Villadiego J, García-Arriaza J, ……. Esteban M, López-Barneo J, Toledo-Aral J. Full protection from SARS-CoV-2 brain infection and damage in susceptible transgenic mice conferred by MVA-CoV2-S vaccine candidate. Nature Neuroscience, 2023; 26(2): 226-238. (Article)

3. Cabello-Rivera D, Ortega-Sáenz P, Gao L, Muñoz-Cabello AM, Bonilla-Henao V, Schumacker PT, López-Barneo J. Oxygen regulation of breathing is abolished in mitochondrial complex III-deficient arterial chemoreceptors. Proceedings of the National Academy of Sciences (USA) 2022; 129: e2202178119. (Article)
4. González-Rodríguez P, Zampese E, Stout KA, Guzman JN, Ilijic E, Yang B, Tkatch T, Stavarache MA, Wokosin DL, Gao L, Kaplitt MG, López-Barneo J, Schumacker PT, Surmeier DJ. Disruption of mitochondrial complex I induces progressive parkinsonism. Nature, 2021; 599: 650-656. (Article). Study initiated in my laboratory by graduate student P. González-Rodríguez and finished during her postdoc in the laboratory of J. Surmeier.
5. Torres-Torrelo H, Ortega-Sáenz P, Gao L, López-Barneo J. Lactate sensing mechanisms in arterial chemoreceptor cells. Nature Communications, 2021; 12: 4166. (Article)
6. Ortega-Sáenz P, López-Barneo J. Physiology of the carotid body; from molecules to disease. Annual Review of Physiology 2020; 82: 127-149. (Review)
7. Moreno-Domínguez A, Ortega-Sáenz P, Gao L, Colinas O, García-Flores P, Bonilla-Henao V, Aragonés J, Hüttemann M, Grossman LI, Weissmann N, Sommer N, López-Barneo J. Acute O2 sensing through Hif2a-dependent expression of atypical cytochrome oxidase subunits in arterial chemoreceptors. Science Signaling 2020; 13(615): eaay9452. (Article)
8. Torres-Torrelo H, Ortega-Sáenz P, Macías D, Omura M, Zhou T, Matsunami H, Johnson RS, Mombaerts P, López-Barneo J. The role of Olfr78 in the breathing circuit of mice. Nature 2018; 561: E33-E40. (Article)
9. Arias-Mayenco I, González-Rodríguez P, Torres-Torrelo H, Gao L, Fernández-Agüera MC, Bonilla-Henao V, Ortega-Sáenz P, López-Barneo J. Acute O2 sensing: Role of coenzyme QH2/Q ratio and mitochondrial ROS compartmentalization. Cell Metabolism 2018; 28(1): 145-158. (Article)
10. Gao L, Bonilla-Henao V, García-Flores P, Arias-Mayenco I, Ortega-Sáenz P, López-Barneo J. Gene expression analyses reveal metabolic specifications in acute O_2 -sensing chemoreceptor cells. Journal of Physiology 2017; 15;595(18):6091-6120. (Article)
11. Fernández-Agüera MC, Gao L, González-Rodríguez P, Pintado CO, Arias-Mayenco I, García-Flores P, García-Pergañeda A, Pascual A, Ortega-Sáenz P, López-Barneo J. Oxygen sensing by arterial chemoreceptors depends on mitochondrial complex I signaling. Cell Metabolism 2015; 22: 825-837. (Article)
12. Platero-Luengo A, González-Granero S, Durán R, Díaz-Castro B, Piruat JI, García-Verdugo JM, Pardal R, López-Barneo J. An O_2-sensitive glomus cell-stem cell synapse induces carotid body growth in chronic hypoxia. Cell, 2014; 156: 291-303. (Article)

C.2. Congresses

For the last 5 years I have been a member of the external scientific advisory board of several Spanish institutions (e.g., CNIC, Madrid and IRB, Barcelona, as well as several Health Research Institutes- IDIBAPS, IIS Sant Pau, VHIR, IIS Aragon, IIS La Princesa, IIS Asturias, among others-) and abroad (e.g., LBI-Lung Vascular Research Institute, Graz, Austria). I have been a member of panel LS4 of the ERC. I have been invited to international conferences on hypoxia and respiratory control, in particular to the Oxford Conferences and the Keystone Hypoxia Symposia. I was the main organizer of the Keystone meeting on January 2020 in Keystone CO, USA. For the last 5 years I have given invited talks on hypoxia and/or neurodegeneration in several Spanish academic institutions as well as in institutions abroad (e.g., Boston, Cambridge, Chicago, Hamilton -Canada-, Jena, Kyoto, Michigan, Oxford, Vienna, among others).

C.3. Research projects (the 5 public + 1 private most representative in the last 10 years)

1. Project. PID2019-106410RBI00, Oxygen sensing and neurodegeneration
(public, competitive). Plan Estatal, Spanish Ministerio de Economia y Competitividad. José López Barneo. (Institute of Biomedicine of Seville), Duration: 01/06/2020-31/05/2023. Amount: 460.000 €. Role: Principal investigator and coordinator.
2. Project. Advanced Grant (AdG), LS4, ERC-2014-ADG, Molecular mechanisms of acute oxygen sensing (public, competitive). European Research Council – Advanced Grant. López Barneo J. (Institute of Biomedicine of Seville), Duration: 01/11/2015-31/10/2021. Amount: 2.843.750 €. Role: Principal investigator

3. Project. Translating hypoxia research to the clinical setting: O2 deficiency tolerance (public, competitive). Instituto de Salud Carlos III. José López Barneo. (Institute of Biomedicine of Seville). Duration: 01/01/2014-01/01/2017. Amount: 875.000 €. Role: Principal investigator and coordinator.
4. Project. Improving translational research at the Institute of Biomedicine at Seville (ITRIBIS) (public, competitive). European Union. López Barneo J. (Institute of Biomedicine of Seville). Duration: 01/07/2013-31/12/2016. Amount: 4.200.000 €. Role: Principal investigator and coordinator.
5. Project. SAF2012-39343, Oxygen sensing and neurodegeneration (public, competitive). Plan Estatal, Spanish Ministerio de Economia y Competitividad (Institute of Biomedicine of Seville) Duration: 01/01/2013-31/12/2015. Amount: 400.000 €. Role: Principal investigator.
6. Project. Oxygen Sensing and Neurodegeneration (private, competitive). Botín Foundation. Duration: January 2007-December 2016. Amount: 1.600.000 €. Role: Principal investigator.

C.4. Contracts, technological or transfer merits (in the last 10 years)
1. Patent of invention. José López Barneo; Alejandro Moreno Domínguez; Patricia Ortega Sáenz; Lin Gao Chen; Olalla Colina Miranda. P202030314. Compuestos para el tratamiento de la sobre activación simpática, Spain. 17/04/2020. Servicio Andaluz de Salud.
2. Patent of invention. Daniel Enterría Morales; Xavier d'Anglemont de Tassigny; Ivette López López; Jose Lopez Barneo. P201731053. Composiciones capaces de modular la estimulación de GDNF endógeno para el tratamiento de las enfermedades neurodegenerativas, Spain. 29/08/2017. Fundación Pública Andaluza para la Gestión de la Investigación en Salud de Sevilla.

C.5. Stays in international research centers (3-months or longer stays during the entire career)
1. Columbia University. Department of Biological Sciences. New York, NY, USA. From 01/03/2016-31/08/2016. 6 months. Invited visiting scientist.
2. Stanford University. Medical School. Palo Alto CA, USA. From 01/08/1991-31/08/1992. 1 year. Invited visiting scientist.
3. New York University Medical Center. New York, NY, USA. From 01/02/1983-31/05/1983. 4 months. Postdoctoral.
4/5. University of Pennsylvania Medical School. Philadelphia, PA, USA. From 01/01/1980-31/08/1982. 2 years and 8 months. Postdoctoral. Summer periods in the Marine Biological Laboratory, Woods Hole, MA, USA.
6. Laboratory of Neurosensorial Physiology, CNRS, Paris, France. From 01/01/1978-31/08/1978. 8 months. Postdoctoral.

C.6. Reviewer
I have been a remote reviewer and member of reviewing panels for over 200 international scientific journals and national/international funding agencies/institutions.
In particular, Andalusian Research Plan, European Research Council (ERC), ICREA, IKERBASQUE, Plan Nacional/Estatal (ANEP), Parkinson UK, Wellcome Trust, among others.
I am a member and coordinator of the evaluation/selection committee of the “Workshops in Biomedicine” organized by the International University of Andalusia (UNIA) in Baeza (Spain).