CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date	15/01/2023

First name	Santiago		
Family name	Lamas		
Gender (*)	Male	Date of Birth (dd/mm/yyyy)	05/08/1958
Social Security, Passport, ID number	50801982L		
e-mail	slamas@cbm.csic.es	URL Web: http://www.cbm.uam.es/lamaslab	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-5166-4155	

(*) Mandatory

A.1. Current position

Position	CSIC Staff (Research Professor)		
Initial date	30-11-1993		
Institution	Agencia Estatal Consejo Superior de Investigaciones Científicas		
Department/Centre	Physiological and Pathological Processes	Centro de Biología Molecular Severo Ochoa (CSIC-UAM)	
Country	Spain	Phone number	+34911964455
Keywords	Fibrosis, Metabolism, Renal Disease, Redox Biology		

A.2. Previous positions (research activity interruptions)

Period	Position/Institution/Country/Cause of the interruption
Not applicable	No interruptions in research activity; combination with several science policy responsibilities (see below)

A.3. Education

PhD, Graduate Degree	University/Country	Year
MD	Universidad Autónoma de Madrid/Spain	1975-1981
Nephrology Specialist	Hospital Ramón y Cajal/Spain	1983-1986
PhD	Universidad Autónoma de Madrid/Spain	1987-1989
Research Fellow in Medicine	Harvard Medical School/USA	1990- 1992

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

I graduated as an MD in 1981 and completed my clinical residency in Nephrology in 1986. After obtaining my PhD in Medicine (Physiology) at the Experimental Nephrology Laboratory (CSIC) of the Jiménez Díaz Foundation (1989), I worked as a postdoctoral researcher at Brigham & Women's Hospital, Harvard Medical School (1990-92). The project developed there was the molecular characterization of the enzyme endothelial nitric oxide synthase (eNOS) (Lamas et al. PNAS, 1992). This work has received more than 1000 citations since its publication. Since December 1993 I have been a permanent member of the Higher Council for Scientific Research (CSIC). I established my research group at the Center for Biological

Research (CIB) in 1994, dedicated to the study of the pathophysiology of the vascular endothelium and redox biology. During the period 2002-2006 I participated in the creation and establishment of the National Cardiovascular Research Center (CNIC) together with Dr. Salvador Moncada. In January 2010 I moved to the Molecular Biology Center "Severo Ochoa" where I was Director between 2012 and 2014. I have directed multiple projects of the National R+D Plan continuously since 1994 and coordinated a Consolider project and several networks of excellence. I have coordinated the 3 research consortiums for the study of chronic kidney disease funded by the Comunidad de Madrid, the last one starting in January 2023. My most important scientific contributions relate to: (a) the molecular characterization of eNOS, (b) the molecular mechanisms of statins action in endothelial dysfunction, (c) the role of redox posttranslational modifications in the endothelium, (d) the molecular mechanisms and role of microRNAs and metabolism in organ fibrosis. During the past years we identified several microRNAs with specific roles in the response to oxidative stress, that were related to metabolic dysfunction in the kidney and lung. We generated a mouse model with enhanced fatty acid oxidation and mitochondrial bioenergetics that showed protection against fibrosis (see publication # 4). This model is of great potential importance as it may be expandable to other organs such as the lung, liver, adipose tissue and the immune system. I have also been involved in many managerial tasks of evaluation for different agencies and I have been Chair of the panel of Biomedicine in the Spanish State Research Agency between 2017 and 2020. As part of my mentoring activity I have directed or co-directed more than 20 doctoral theses of researchers, many of whom are still active in research. I have been the main organizer of several scientific events along my career including Juan March conferences, Spanish Society of Redox Biology meetings and UNIA workshops. My current Google Scholar figures are: 19672 citations, H Index 69. My position in the ranking of Spanish scientists for all disciplines according to www.webometrics.info is #729.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Original publications and relevant reviews (indicated by R) related to the past 8 years. Senior authorship is indicated by an asterisk.

1. Wculek SK, Heras-Murillo I, Mastrangelo A, Mañanes D, Galán M, Miguel V, Curtabbi A, Barbas C, Chandel NS, Enríquez JA, **Lamas S**, Sancho D. Oxidative phosphorylation selectively orchestrates tissue macrophage homeostasis. ***Immunity***, in press, 2023.
2. Perramón M, Carvajal S, Reichenbach V, Fernández-Varo G, Boix L, Macías-Muñoz L, Melgar-Lesmes P, Bruix J, Melmed S, **Lamas S**, Jiménez W. The pituitary tumour-transforming gene 1/delta-like homologue 1 pathway plays a key role in liver fibrogenesis. ***Liver Int***. 2022 Mar;42(3):651-662.
3. Ruiz-Ortega M, **Lamas S**, Ortiz A. Antifibrotic agents for the management of CKD: a review. ***Am J Kidney Dis*** 2022. (R).
4. Miguel V, Tituaña J, Herrero JI, Herrero L, Serra D, Cuevas P, Barbas C, Rodríguez-Puyol D, Márquez-Expósito L, Ruiz-Ortega M, Castillo C, Sheng X, Susztak K, Ruiz-Canela M, Salas-Salvadó J, Hu FB, Martínez Gonzalez MA, Ortega S, Ramos R, **Lamas S***. Renal tubule Cpt1a overexpression mitigates kidney fibrosis by restoring mitochondrial homeostasis. ***Journal of Clinical Investigation***, 10.1172/JCI140695, 2021.
5. Miguel V, Ramos R, García-Bermejo L, Rodríguez-Puyol D, **Lamas S***. The program of renal fibrogenesis is controlled by microRNAs regulating oxidative metabolism. ***Redox Biology.*** Doi: 10.1016/j.redox.2020.101851, 2021.
6. Márquez-Exposito L, Rodrigues-Diez RR, Rayego-Mateos S, Fierro-Fernandez M, Rodrigues-Diez R, Orejudo M, Santos-Sánchez L, Blanco EM, Laborda J, Mezzano S, **Lamas S**, Lavoz C, Ruiz-Ortega M. Deletion of delta-like 1 homologue accelerates renal inflammation by modulating the Th17 immune response. ***FASEB J***. 2021 Jan;35(1):e21213. doi: 10.1096/fj.201903131R.

7. Miguel V, **Lamas S***. Redox Distress in organ fibrosis: the role of Non-coding RNAs. ***Oxidative stress: Eustress and distress. Helmut Sies (Ed.). Elsevier.*** Book chapter: 37; 779-820. 2020. (R).
8. Ruiz-Ortega M, Rayego-Mateos S, **Lamas S**, Ortiz A, Rodrigues-Díez R. Targeting the progression of chronic kidney disease. ***Nature Reviews Nephrology***. 16:269-288, 2020. (R).
9. Price NL, Miguel V, Ding W, Singh AK, Malik S, Rotllan N, Moshnikova A, Toczek J, Zeiss C, Sadeghi M, Arias Rueda N, Baldán A, Andreev O, Rodriguez-Puyol D, Bahal R, Reshetnyak YK, Suárez Y, Fernández-Hernando C, **Lamas S***. Genetic deficiency and pharmacological inhibition of miR-33 enhances renal fatty acid oxidation and attenuates kidney fibrosis. ***JCI Insight****, 10.1172/jci.insight.1311022019. 2019.*
10. Fierro-Fernández M, Miguel V, Márquez-Expósito L, Nuevo-Tapioles C, Herrero JI, Blanco-Ruiz E, Tituaña J, Castillo C, Cannata P, Monsalve M, Ruiz-Ortega M, Ramos R, **Lamas S***. MiR-9-5p protects from kidney fibrosis by metabolic reprogramming. ***FASEB Journal*** 34:410-431, 2020.
11. Rodriguez P, Sassi Y, Troncone L, Benard L, Ishikawa K, Gordon RE, **Lamas S**, Laborda J, Hajjar RJ, Lebeche D. Deletion of delta-like 1 homologue accelerates fibroblast-myofibroblast differentiation and induces myocardial fibrosis. ***European Heart Journal*** 40: 967-7, 2019.
12. Espinosa-Díez C, Miguel V, Vallejo S, Sánchez FJ, Sandoval E, Blanco E, Cannata P, Peiró C, Sánchez-Ferrer CF, **Lamas S***. Role of glutathione biosynthesis in endothelial dysfunction and fibrosis. ***Redox Biology***. 14:88-99, 2018.
13. Fierro-Fernández M, Busnadiego O, Sandoval P, Espinosa-Díez C, Blanco-Ruiz E, Rodríguez M, Pian H, Ramos R, López-Cabrera M, García-Bermejo ML, **Lamas S*.** miR-9-5p suppresses pro-fibrogenic transformation of fibroblasts and prevents organ fibrosis by targeting NOX4 and TGFBR2. ***EMBO Reports***.16:1358-77, 2015.
14. Espinosa-Diez C, Fierro-Fernández M, Sánchez-Gómez F, Rodríguez-Pascual F, Alique M, Ruiz-Ortega M, Beraza N, Martínez-Chantar ML, Fernández-Hernando C, **Lamas S***. Targeting of Gamma-Glutamyl-Cysteine Ligase by miR-433 Reduces Glutathione Biosynthesis and Promotes TGF-β-Dependent Fibrogenesis. ***Antioxid Redox Signal***. 23:1092-1105, 2015.
15. Espinosa-Diez C, Miguel V, Mennerich D, Kietzmann T, Sánchez-Pérez P, Cadenas S, **Lamas S***. Antioxidant responses and celular adjustments to oxidative stress. ***Redox Biology*** 2015 Dec 6:183-197. (R).

C.2. Invited talks

Along my career I have presented many oral talks and poster communications. I have been invited to deliver many seminars at national and international venues. Most recently these are:

- August 2022: Lecture for **Basic Research Award, European Society for Free Radical Research**, Ghent, Belgium.
- June 2022: Invited talk, Department of Medicine, Klinikum, **University of Aachen**, Germany.
- May 2022: Invited talk **European Renal Association**, Paris, France.
- February 2021: Invited speaker, **Brigham and Women´s seminar series**, Harvard Medical School, Boston, USA.
- July 2020: Keynote lecture, **ITN meeting**, Coimbra, Portugal.
- May 2019: Invited speaker, **EMBO workshop** on Molecular Mechanisms of Tissue injury, repair and fibrosis, Spetses Island, Greece.
- February 2019: Session chair, **Keystone Meeting** on Fibrosis, Whistler, Canada.
- June 2018: Invited speaker, Redox Biology Workshop, **Universidad de la República**, Uruguay.
- May 2018: Invited speaker, **European Society for Free Radical Research**, Lisbon, Portugal.
- March 2018: Invited speaker, **Renaltract conference**, **University of Manchester**,

UK.
- May 2016: Invited speaker, Meeting of the Oxygen Club of California, **University of Davis**, USA.
- June 2016: Invited speaker, Department of Medicine, **University of Alabama** at Birmingham, USA.
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C.3. Research projects: Listed ones are only those as principal investigator and/or coordinator since 2015:

1. P2022/BMD-7221. INNOREN-CM. Nuevas estrategias diagnósticas y terapéuticas en enfermedad renal crónica. 2023 -2026. Total: 818.000 €.
2. PID2019-104233RB-I00: Reprogramación metabólica para combatir la fibrosis renal. 1-06-2020 to 31-05-2023. Total 428.340€.
3. 202020E160. Fibrosis pulmonar post covid19: marcadores y opción terapéutica con metformina. Consejo Superior de Investigaciones Científicas. 11/05/20 to 31/12/2021. Total: 145.000€.
4. S2017/BMD-3751. Enfermedad Renal Crónica: Nuevas estrategias para la prevencion, diagnóstico y tratamiento. Comunidad de Madrid, programa de Biomedicina. 1/01/2020-30/06/2022. Total: 883.275,50€. Coordinator of consortium NOVELREN-CM .
5. RD16/0009/0016. Red de Investigacion Renal Redinren. Instituto de Salud Carlos III. 1/01/2017-31/12/2021. Total: 118.673,5 €.
6. Ayuda Sociedad Española de Nefrología. pHLIP: Un sistema nuevo de vehiculización y distribución renal de microRNAs. Fundación Senefro. 2017-2019. Total: 24.000 €
7. SAF2015-66107-R. Identificación de los microRNAs implicados en las bases metabólicas de la fibrogenesis renal. Ministerio de Ciencia, Innovación y Universidades. 1/01/2016-31/12/2019. Total: 447.000 €.
8. SAF2015-71521-REDC. Consolidación Red Multidisciplinar en biología redox. Ministerio de Ciencia, Innovación y Universidades. 01/12/2015-31/5/2018. Total: 51.500 **€.**

C.4. Technology/Knowledge transfer

My laboratory filed two patents (none exploited commercially) related to an angiogenesis inhibitor and the use of a microRNA:

1. Compounds for prevention and/or treatment of fibrotic diseases Inventors: Lamas S; Fierro M. European Patent Number: 1401 CSIC. Date: 13/08/2014.
2. Use of Dlk-1 as an angiogenesis inhibitor Inventors: Lamas S; Rodriguez P; Higueras MA; Laborda J. European Patent Number: P201031547. CSIC. Date: 21/10/2010

C. 5. FELLOWSHIPS AND AWARDS (last 5 years)

5/2022-8/2022: Salvador de Madariaga Fellowship Spanish Ministry of Science for sabbatical leave, University of Aachen, Germany.
2022: Basic Research Award, European Society for Free Radical Research.
2021: Honoris Causa Award from Universidad de la República, Uruguay.
2021: Basic Research Prize: Renal Foundation “Iñigo Alvarez de Toledo”, Spain
2016: Health Science Prize, Oxygen Club of California.
4/2016-8/2016: Salvador de Madariaga Fellowship Spanish Ministry of Science for sabbatical leave, Yale University, USA