

CURRICULUM VITAE

José Javier Fuster, Ph.D.

Office Address: Melchor Fernández Almagro 3
28029 - Madrid (Spain)
Phone: (+34) 914531200
Fax: (+34) 914531265
e-mail: jjfuster@cnic.es

CURRENT POSITION: Assistant Professor and Group Leader
Hematovascular Pathophysiology Laboratory
Centro Nacional de Investigaciones Cardiovasculares/
Spanish National Center for Cardiovascular Research (CNIC)

EDUCATION AND ACADEMIC TRAINING:

09/2000-07/2005 B.S. University of Valencia, Spain
09/2005-07/2010 Ph.D. University of Valencia, Spain

POSTDOCTORAL TRAINING:

08/2010-08/2011 Postdoctoral Associate Spanish National Cardiovascular Research Center
09/2011-06/2015 Postdoctoral Fellow Boston University School of Medicine

ACADEMIC APPOINTMENTS:

07/2015-05/2017 Instructor Boston University School of Medicine (BU, USA)
06/2017-01/2018 Assistant Professor Boston University School of Medicine (BU, USA)
01/2018-08/2018 Assistant Professor Univ. of Virginia School of Medicine (UVA, USA)
09/2018-present Assistant Professor Spanish National Center for CV Research (CNIC)
09/2020-07/2022 Honorary Professor Autonomous University of Madrid (UAM, Spain)

PERSONAL STATEMENT OF RESEARCH INTERESTS

My research is focused on the evaluation of new mechanisms that link aging to inflammation and cardiovascular disease (CVD), with an especial interest in the pathophysiology of atherosclerosis. Within this setting, my current main line of research is aimed at investigating the potential causal role of somatic mutations in blood cells in age-related cardiovascular and metabolic disease. The accumulation of somatic mutations over time is a hallmark of aging in many tissues, particularly in highly proliferative tissues such as the hematopoietic system. It has been estimated that a middle-age individual carries on the order of 1 million different acquired mutations in the hematopoietic stem cell pool, which sets the stage for a robust Darwinian selection of mutations that provide a competitive advantage to the mutant cell. Sequencing studies in humans suggest that >20% of healthy individuals >60 years old exhibit somatic mutations that provide such a competitive advantage, leading to the clonal expansion of the mutant cell within the hematopoietic stem cell population and its blood cell progeny. Unexpectedly, this somatic mutation-driven clonal hematopoiesis (CH) has been associated with an increased risk of atherosclerotic CVD, suggesting the provocative hypothesis that somatic mutations in blood cells contribute to atherosclerosis and related conditions. Testing this hypothesis using a combination of human studies, animal models and cell culture experiments is the main objective of my research. I conducted pioneering work in this field, providing the first experimental evidence causally linking CH to accelerated atherosclerosis (*Science*, 2017) and exacerbated insulin resistance (*Cell Reports*, 2021), as well as the first human genetic evidence of an association between CH and heart failure progression in the absence of atherosclerotic coronary disease in humans (*JACC*, 2021). Additional lines of research in my laboratory are broadly related to the elucidation of new mechanisms of inflammation in atherosclerosis.

PROFESSIONAL AND ACADEMIC HONORS AND RECOGNITIONS:

- 05/2018 *EAS Young Investigator Award* 2018, European Atherosclerosis Society; in recognition of the outstanding contribution to knowledge in the field of atherosclerosis and related diseases.
- 05/2018 *Irvine H. Page Young Investigator Finalist Award* 2018; American Heart Association; in recognition of the potential to become a future leader in cardiovascular research
- 06/2017 *Young Investigator Poster Award*, Gordon Research Conference on Systems-Interaction in Atherosclerosis 2017; young investigator award for outstanding poster presentation.
- 04/2017 *EAS Young Investigator Fellowship*, European Atherosclerosis Society; travel award for attendance to the European Atherosclerosis Society Congress 2017.
- 09/2014 *Junior Investigator Award*, University of Kentucky Aortic Symposium 2014; young investigator award for outstanding poster presentation.
- 03/2014 *Future of Science Travel Scholarship*, Keystone Symposia; travel award for attendance to the Keystone Symposium on Innate Immunity, Metabolism and Vascular Injury.
- 01/2010 *ESC Young Investigator Finalist Award*. European Society of Cardiology Heart Failure Winter Meeting 2010; young investigator award for outstanding poster presentation.
- 09/2005 *Spanish National Graduate Award* (Biochemistry); *Tercer Premio Nacional Fin de Carrera*
- 09/2005 *University of Valencia Extraordinary Graduate Award* (Biochemistry); *Premio Extraordinario Licenciatura*

PROFESSIONAL SOCIETIES:

- 2022-present *Member*, European Hematology Association
- 2021-present *Member*, International Society of Experimental Hematology
- 2020-present *Member*, Spanish Society of Atherosclerosis
- 2019-present *Member*, European Society of Cardiology
- 2018-2019 *Member*, European Association for the Study of Diabetes
- 2013-present *Member*, International Atherosclerosis Society
- 2013-present *Member*, European Atherosclerosis Society
- 2012-present *Member*, American Heart Association

OTHER ACADEMIC, PROFESSIONAL AND EDITORIAL SERVICE:

- 2022-present *Coordinator*, Scientific Program on Novel Mechanisms of Atherosclerosis, CNIC, Spain
- 2021-present *Scientific Advisory Board member*, U45 Japanese Section of the International Society for Heart Research (www.u45ishr.com/advisory-board/)
- 2021-present *Adjunct Coordinator*, PESA Study Systems Biology Committee, CNIC, Spain
- 2020-2022 *Coordinator*, Frontiers in Cardiovascular Research class, Master in Molecular Biomedicine, Autonomous University of Madrid, Spain

- 2019-present *Guest Lecturer*, Inflammation in Atherosclerosis class, Master in Translational Medicine, Complutense University of Madrid, Spain.
- 2019-present *Coordinator*, Flow Cytometry Working Group, CNIC, Spain
- 2019-present *Member*, Animal Facility Committee, CNIC, Spain
- 2019 *Guest Associate Editor*, Frontiers in Cardiovascular Medicine – Section on Cardiovascular Metabolism
- 2018-present *Grant Reviewer*, European Research Council (ERC-AdG), Spanish *Agencia Nacional de Investigación* (Spain), German Federal Ministry of Education and Research (BMBF, Germany), Science Fund of The Republic of Serbia (Serbia), National Science Center (NCN, Poland), French National Research Agency (ANR, France), Basque Government Health Department (Spain), Radiation Effects Research Foundation (RERF, Japan), Austrian Science Fund (FWF, Austria), American Heart Association (AHA, USA)
- 2016-present *Editorial Board Member*, Frontiers in Cardiovascular Medicine – Section on Atherosclerosis and Vascular Medicine
- 2014-present *Ad Hoc Reviewer* for the scientific journals: *New England Journal of Medicine*, *European Heart Journal*; *Journal of the American College of Cardiology*; *Circulation*; *Science Translational Medicine*; *Circulation Research*; *European Journal of Heart Failure*; *Haematologica*; *Cell Reports*; *Cardiovascular Research*, *EBioMedicine*, *Cell Death & Disease*, *Arteriosclerosis Thrombosis*, and *Vascular Biology*; *Circulation: Genomic and Precision Medicine*; *Journal of Clinical Endocrinology and Metabolism*; *Cardiovascular Diabetology*; *Atherosclerosis*, among others.

SUPERVISION AND MENTORING ACTIVITIES

Former trainees

- Vanesa Viana-Huete, PhD - Postdoctoral Associate (2018-2019)
- Jelena Eric - Undergraduate Student (2019)
- Alba Ferrer – Technician and M.S. Student (2019/2020)
- Asier Iturrate – M.S. Student (2019/2020)
- Raquel García – Undergraduate Student (2021)
- Pablo Fuentes – Undergraduate Student (2022)

Current postdoctoral scientists

- Nuria Matesanz, PhD (since 2019)
- María A. Zuriaga, PhD (since 2019)
- M^a Carmen Asensio, PhD (since 2021)
- Benedetta Izzi, PhD (since 2022)

Current PhD students

- Marta Amorós (since 2019, co-supervised by Vicente Andrés, CNIC)
- Miriam Díez (since 2020)
- Beatriz López (since 2020, co-supervised by Fátima Sánchez-Cabo, CNIC)
- Jorge de la Barrera (since 2020, co-supervised by Fátima Sánchez-Cabo, CNIC)
- Inés Bravo Ruíz (since 2021, co-supervised by Domingo Pascual-Figal, IMIB & CNIC)

Current Lab Technicians

- Virginia Zorita (since 2019)
- Rosa Moro (since 2019)
- Diego Cuevas (since 2022)

SCIENTIFIC BIBLIOGRAPHY

ORCID ID: [0000-0002-5970-629X](https://orcid.org/0000-0002-5970-629X)

Publons/ResearcherID: [D-3685-2011](https://publons.com/author/pub/1907080000/)

Google Scholar: [Scholar Profile](https://scholar.google.com/citations?user=VW1U8wEAAAAJ)

Metrics

50 scientific articles

>4584 citations, h-index: 27 (Google Scholar data); >3165 citations, h-index 26 (WOS/JCR data)

Research Articles

* When available, impact factor and journal impact factor rank (percentile within a specific WOS/JCR category in the year of publication or closest available) is shown for each publication.

1. Seyedeh MZ, Viana-Huete V, Zuriaga MA, Md Mesbah U, Trinder M, Paruchuri K, Matesanz N, Zorita V, Ferrer-Pérez A, Amorós-Pérez M, Damrauer SM, Ballantyne CM, Gibson CJ, Pirruccello J, Griffin G, Ebert BL, Libby P, Fuster V, Zhao H, Natarajan P, Bick AG, **Fuster JJ***, Klarin D* (2022). *TP53-mediated clonal hematopoiesis confers increased risk for incident atherosclerotic disease. Nature Cardiovascular Research. In press*

*Co-corresponding authors. *IF: not yet available*

2. Díez-Díez M, Amorós-Pérez M, de la Barrera J, Vázquez E, Quintas A, Pascual-Figal DA, Dopazo A, Sánchez-Cabo F, Kleinman ME, Gordon LB, Fuster V, Andrés V, **Fuster JJ** (2022). *Clonal hematopoiesis is not prevalent in Hutchinson-Gilford progeria syndrome. Geroscience. In press.* doi:10.1007/s11357-022-00607-2.

Journal in the top 25th percentile (Q1, Geriatrics & Gerontology) *IF:7.581*

3. Devesa A, Lobo-González M, Martínez-Milla J, Oliva B, García-Lunar I, Mastrangelo A, España S, Sanz J, Mendiguren JM, Bueno H, **Fuster JJ**, Andrés V, Fernández-Ortiz A, Sancho D, Fernández-Friera L, Sanchez-Gonzalez J, Rossello X, Ibanez B, Fuster V (2022). *Bone marrow activation in response to metabolic syndrome and early atherosclerosis. Eur Heart J.* 43(19):1809-1828. doi:10.1093/eurheartj/ehac102.

Journal in the top 10th percentile (D1, Cardiac and Cardiovascular Systems) *IF:35,855*

4. Palomo L, Santiago-Vacas E, Pascual-Figal D, **Fuster JJ**, Solé F, Bayés-Genís A (2021). *Prevalence and characteristics of clonal hematopoiesis in heart failure. Revista Espanola de Cardiologia (English ed.).* 74(11):996-999. doi:0.1016/j.rec.2021.05.005

Journal in the top 25th percentile (Q1, Cardiac & Cardiovascular Systems) *IF:7.062*

5. Pascual-Figal D*, Bayes-Genis A, Díez M, Hernández-Vicente A, Vázquez-Andrés D, de la Barrera J, Vazquez E, Quintas A, Zuriaga MA, Asensio-López MC, Dopazo A, Sánchez-Cabo F, **Fuster JJ*** (2021). *Clonal Hematopoiesis and Risk of Progression of Heart Failure with Reduced Left Ventricular Ejection Fraction. J. Am. Coll. Cardiol.* 77(14):1747-1759. doi:10.1016/j.jacc.2021.02.028. *Co-corresponding authors.

Journal in the top 10th percentile (D1, Cardiac and Cardiovascular Systems) *IF: 27.206*

Accompanied by an *Editorial* in *J. Am. Coll. Cardiol.* (doi:10.1016/j.jacc.2021.02.045).

6. **Fuster JJ***, Zuriaga MA, Zorita V, MacLauchlan S, Polackal MN, Viana-Huete V, Ferrer-Pérez A, Matesanz N, Herrero-Cervera A, Sano S, Cooper MA, González-Navarro H, Walsh K* (2020). *TET2 loss of function-driven clonal hematopoiesis exacerbates experimental insulin resistance in aging and obesity. Cell Reports.* 33(4):108326. doi:10.1016/j.celrep.2020.108326. *Co-corresponding authors.

Journal in the top 25th percentile (Q1, Cell Biology) *IF: 9.423*

7. Wang Y, Sano S, Yura Y, Ke Z, Sano M, Oshima K, Ogawa H, Horitani K, Min KD, Miura-Yura E, Kour A, Evans MA, Zuriaga MA, Hirschi KK, **Fuster JJ**, Pietras EM, Walsh K (2020). *Tet2-mediated clonal hematopoiesis in nonconditioned mice accelerates age-associated cardiac dysfunction.* **JCI Insight.**;5(6): e135204. doi:10.1172/jci.insight.135204.
Journal in the top 25th percentile (Q1, Medicine, Research & Experimental) *IF: 8.315*
8. Sano S, Oshima K, Wang Y, MacLauchlan S, Katanasaka Y, Sano M, Zuriaga MA, Yoshiyama M, Goukassian D, Cooper MA, **Fuster JJ**, Walsh K (2018). *Tet2-mediated clonal hematopoiesis accelerates experimental heart failure through an IL-1 β /NLRP3 inflammasome mechanism.* **J. Am. Coll. Cardiol.** 71(8):875-886. doi:10.1016/j.jacc.2017.12.037.
Journal in the top 10th percentile (D1, Cardiac and Cardiovascular Systems) *IF: 18.639*
Accompanied by: *Editorial* in *J. Am. Coll. Cardiol.* (doi:10.1016/j.jacc.2017.12.038); *Research Highlight* in *Nature Reviews Cardiology* (doi:10.1038/nrcardio.2018.22); *Editor's Choice* in *Science Translational Medicine* (doi:10.1126/scitranslmed.aat3885).
9. Molina-Sánchez P, Del Campo L, Esteban V, Rius C, Chèvre R, **Fuster JJ**, Ferrer M, Redondo JM, Andres V (2018). *Defective p27 phosphorylation at serine 10 affects vascular reactivity and increases abdominal aortic aneurysm development via Cox-2 activation.* **J. Mol. Cell. Cardiol.** 116:5-15. doi:10.1016/j.yjmcc.2018.01.010.
Journal in the top 25th percentile (Q1, Cardiac and Cardiovascular Systems) *IF: 5.055*
10. Zuriaga MA, **Fuster JJ**, Farb MG, MacLauchlan S, Bretón-Romero R, Karki S, Hess DT, Apovian CM, Hamburg NM, Gokce N, Walsh K (2017). *Activation of non-canonical WNT signaling in human visceral adipose tissue contributes to local and systemic inflammation.* **Scientific Reports.** 11;7(1):17326. doi:10.1038/s41598-017-17509-5. PMID: 29229927
Journal in the top 25th percentile (Q1, Multidisciplinary Sciences) *IF: 4.122*
11. **Fuster JJ***, MacLauchlan S, Zuriaga MA, Polackal MN, Ostriker AC, Chakraborty R, Wu C-L, Sano S, Muralidharan S, Rius C, Vuong J, Jacob S, Muralidhar V, Robertson AAB, Cooper MA, Andres V, Hirschi KK, Martin KA, Walsh K* (2017). *Clonal hematopoiesis associated with TET2 deficiency accelerates atherosclerosis development in mice.* **Science.** 355(6327):842-847. doi:10.1126/science.aag1381. ***Co-corresponding authors**
Journal in the top 10th percentile (D1, Multidisciplinary Sciences) *IF: 41.058*
Editorials and Research Highlight articles on Fuster et al, Science 2017:
Perspective: Hematopoietic stem cells gone rogue. Zhu YP, Hedrick CC, Gaddis DE. **Science.** 2017 Feb 24;355(6327):798-799. doi:10.1126/science.aam7939.
News and Views: Cardiovascular disease: Commonality with cancer. Tall AR, Levine RL. **Nature.** 2017 Mar 2;543(7643):45-47. doi:10.1038/nature21505
Research Highlight: **Nature.** 2017 Jan 25; 541:438. doi:10.1038/541438c.
Research Highlight: **Nature Reviews Drug Discovery.** 2017 Mar 1;16(3):166. doi:10.1038/nrd.2017.40.
Research Highlight: **Nature Immunology.** 2017 Mar 22;18(4):373. doi:10.1038/ni.3721.
Editor's choice: **Science Signaling.** 2017 Feb 28;10(468). doi:10.1126/scisignal.aan0468.
Selected by Nature Medicine as Notable Biomedical Advance of the Year 2017.
Nature Medicine 2017;23:1387. doi:10.1038/nm1217-1387.
Recommended in F1000prime: <https://f1000.com/prime/727224345>

12. MacLauchlan S, Zuriaga MA, **Fuster JJ**, Cuda C, Jonason J, Behzadi F, Parker Duffen J, Haines III GK, Aprahamian T, Perlman H, Walsh K (2017). *Genetic deficiency of Wnt5a diminishes disease severity in a murine model of rheumatoid arthritis. Arthritis Res Ther.* 19(1):166. doi:10.1186/s13075-017-1375-0.
Journal in the top 25th percentile (Q1, Rheumatology) IF: 4.269
13. Zuriaga MA, **Fuster JJ**, Gokce N, Walsh K (2017). *Humans and Mice Display Opposing Patterns of "Browning" Gene Expression in Visceral and Subcutaneous White Adipose Tissue Depots. Front Cardiovasc Med.* 4:27. doi:10.3389/fcvm.2017.00027.
Journal in the top 50th percentile (Q2, Cardiac & Cardiovascular Systems) IF: 3.915
14. Bretón-Romero R, Feng B, Holbrook M, Farb MG, Fetterman JL, Linder EA, Berk BD, Masaki N, Weisbrod RM, Inagaki E, Gokce N, **Fuster JJ**, Walsh K, Hamburg NM (2016). *Endothelial Dysfunction in Human Diabetes Is Mediated by Wnt5a-JNK Signaling. Arterioscler Thromb Vasc Biol.* 36(3):561-9. doi:10.1161/ATVBAHA.115.306578
Journal in the top 10th percentile (D1, Peripheral Vascular Disease) IF: 6.607
15. Farb MG, Karki S, Park SY, Saggese SM, Carmine B, Hess DT, Apovian C, Fetterman JL, Bretón-Romero R, Hamburg NM, **Fuster JJ**, Zuriaga MA, Walsh K, Gokce N (2016). *WNT5A-JNK regulation of vascular insulin resistance in human obesity. Vascular Medicine.* 21(6):489-496. doi:10.1177/1358863X16666693.
Journal in the top 75th percentile (Q3, Peripheral Vascular Disease) IF: 1.866
16. Nakamura K, Sano S, **Fuster JJ**, Kikuchi R, Shimizu I, Ohshima K, Katanasaka Y, Ouchi N, Walsh K (2016). *Secreted Frizzled-related Protein 5 Diminishes Cardiac Inflammation and Protects the Heart from Ischemia/Reperfusion Injury. J Biol Chem.* 291(6):2566-75. doi:10.1074/jbc.M115.693937.
Journal in the top 50th percentile (Q2, Biochemistry & Molecular Biology) IF: 4.125
17. Valero-Muñoz M, Li S, Wilson RM, Hulsmans M, Aprahamian T, **Fuster JJ**, Nahrendorf M, Scherer PE, Sam F (2016). *Heart Failure With Preserved Ejection Fraction Induces Beiging in Adipose Tissue. Circ Heart Fail.* 9(1):e002724 doi:10.1161/CIRCHEARTFAILURE.115.002724.
Journal in the top 25th percentile (Q1, Cardiac & Cardiovascular Systems) IF: 6.372
18. Molina-Sánchez P, Chèvre R, Rius C, **Fuster JJ**, Andrés V (2015). *Loss of p27 phosphorylation at Ser10 accelerates early atherogenesis by promoting leukocyte recruitment via RhoA/ROCK. J Mol Cell Cardiol.* 84:84-94. doi:10.1016/j.yjmcc.2015.04.013.
Journal in the top 25th percentile (Q1, Cardiac & Cardiovascular Systems) IF: 4.784
19. **Fuster JJ**, Zuriaga MA, Ngo DT, Farb MG, Aprahamian T, Yamaguchi TP, Gokce N, Walsh K (2015). *Non-canonical Wnt signaling promotes obesity-induced adipose tissue inflammation and metabolic dysfunction. Diabetes.* 64(4):1235-48. doi:10.2337/db14-1164.
Journal in the top 10th percentile (D1, Endocrinology & Metabolism) IF: 8.784
20. Kikuchi R, Nakamura K, MacLauchlan S, Ngo DT, Shimizu I, **Fuster JJ**, Katanasaka Y, Yoshida S, Qiu Y, Yamaguchi TP, Matsushita T, Murohara T, Gokce N, Bates DO, Hamburg NM, Walsh K (2014). *An antiangiogenic isoform of VEGF-A contributes to impaired vascularization in peripheral artery disease. Nat Med.* 20:1464-71. doi:10.1038/nm.3703.
Journal in the top 10th percentile (D1, Medicine, Research and Experimental) IF: 28.223

21. Yoshida S, **Fuster JJ**, Walsh K (2014). *Adiponectin attenuates abdominal aortic aneurysm formation in hyperlipidemic mice.* **Atherosclerosis.** 235(2):339-346. doi:10.1016/j.atherosclerosis.2014.05.923.
Journal in the top 25th percentile (Q1, Peripheral Vascular Disease) IF: 3.994
22. Murdoch CE, Shuler M, Haeussler DJF, Kikuchi R, Bearely P, Han J, Watanabe Y, **Fuster JJ**, Walsh K, Ho YS, Bachschmid MM, Cohen RA, Matsui R (2014). *Glutaredoxin-1 up-regulation induces soluble vascular endothelial growth factor receptor 1, attenuating post-ischemia limb revascularization.* **J Biol Chem.** 289:8633-8644. doi:10.1074/jbc.M113.517219.
Journal in the top 25th percentile (Q1, Biochemistry & Molecular Biology) IF: 4.573
23. Zotes TM, Arias CF, **Fuster JJ**, Spada R, Pérez-Yagüe S, Hirsch E, Wymann M, Carrera AC, Andrés V, Barber DF (2013). *PI3K p110 γ deletion attenuates murine atherosclerosis by reducing macrophage proliferation but not polarization or apoptosis in lesions.* **PLoS One.** 8(8):e72674. doi: 10.1371/journal.pone.0072674
Journal in the top 25th percentile (Q1, Multidisciplinary Sciences) IF: 3.534
24. **Fuster JJ**, Molina-Sánchez P, Jovaní D, Vinué Á, Serrano M, Andrés V (2012). *Increased gene dosage of the Ink4/Arf locus does not attenuate atherosclerosis development in hypercholesterolaemic mice.* **Atherosclerosis.** 221:98-105. doi:10.1016/j.atherosclerosis.2011.12.013.
Journal in the top 25th percentile (Q1, Peripheral Vascular Disease) IF: 3.706
25. **Fuster JJ**, González-Navarro H, Vinué A, Molina-Sánchez P, Andrés-Manzano MJ, Nakayama KI, Nakayama K, Díez-Juan A, Bernad A, Rodríguez C, Martínez-González J, Andrés V (2011). *Deficient p27 phosphorylation at serine 10 increases macrophage foam cell formation and aggravates atherosclerosis through a proliferation-independent mechanism.* **Arterioscler Thromb Vasc Biol.** 31:2455-2463 doi:10.1161/ATVBAHA.111.235580.
Journal in the top 10th percentile (D1, Peripheral Vascular Disease) IF: 6.368
26. **Fuster JJ**, González JM, Edo MD, Viana R, Boya P, Cervera J, Verges M, Rivera J, Andrés V (2010). *Tumor suppressor p27(Kip1) undergoes endolysosomal degradation through its interaction with sorting nexin 6.* **FASEB J.** 24:2998-3009. doi:10.1096/fj.09-138255.
Journal in the top 10th percentile (D1, Biology) IF: 6.515
27. Sanz-González SM, Barquín L, García-Cao I, Roque M, González JM, **Fuster JJ**, Castells MT, Flores JM, Serrano M, Andrés V (2007). *Increased p53 gene dosage reduces neointimal thickening induced by mechanical injury but has no effect on native atherosclerosis.* **Cardiovasc Res.** 75:803-812. doi:10.1016/j.cardiores.2007.05.002.
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) IF: 6.127
28. Fernández-Medarde A, Porteros A, de las Rivas J, Núñez A, **Fuster JJ**, Santos E (2007). *Laser microdissection and microarray analysis of the hippocampus of Ras-GRF1 knockout mice reveals gene expression changes affecting signal transduction pathways related to memory and learning.* **Neuroscience.** 146:272-85. doi:10.1016/j.neuroscience.2007.01.022.
Journal in the top 50th percentile (Q2, Neurosciences) IF: 3.352

Invited Reviews and Editorials

29. Zuriaga MA and **Fuster JJ** (2022). *New insights into the dynamics of age-related clonal hematopoiesis. Journal of Cardiovascular Aging. In press.* doi: 10.20517/jca.2022.38
IF: not yet available
30. Tall A* and **Fuster JJ*** (2022). *Clonal Hematopoiesis In Cardiovascular Disease And Therapeutic Implications. Nature Cardiovascular Research.* 1:116-124. doi:10.1038/s44161-021-00015-3 *Co-corresponding authors.
IF: not yet available
31. Díez-Díez M, **Fuster JJ.** *Troublemaking mutations: Clonal hematopoiesis for the prediction of prognosis in ST-segment elevation myocardial infarction. EBioMedicine.* 79:104015. doi: 10.1016/j.ebiom.2022.104015.
 Journal in the top 10th percentile (D1, Medicine, Research & Experimental) *IF: 11.205*
32. **Fuster JJ** (2022). *Clonal Hematopoiesis and Cardiovascular Disease in Cancer Patients and Survivors. Thrombosis Research.* ;213 Suppl 1:S107-S112 doi:10.1016/j.thromres.2021.12.009.
 Journal in the top 10th percentile (D1, Peripheral Vascular Disease) *IF: 10.409*
33. Zuriaga MA and **Fuster JJ** (2021). *Clonal hematopoiesis and atherosclerotic cardiovascular disease: A primer. Clinica e Investigación en Arteriosclerosis.* 5:S0214-9168(21)00139-X. doi:10.1016/j.arteri.2021.09.006. *IF: not yet available*
34. Zuriaga MA and **Fuster JJ** (2021). *Emerging Role of Acquired Mutations and Clonal Hematopoiesis in Atherosclerosis—Beyond Conventional Cardiovascular Risk Factors—. Circulation Journal. In press.* doi:10.1253/circj.CJ-21-0505
 Journal in the top 50th percentile (Q3, Cardiac & Cardiovascular Systems) *IF: 3.350*
35. Sánchez-Cabo and **Fuster JJ** (2021). *Clonal haematopoiesis and atherosclerosis: a chicken or egg question? Nature Reviews Cardiology* 18:463-464. doi:10.1038/s41569.021.00554.z
 Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 49.421*
36. **Fuster JJ** (2021). *Clonal Hematopoiesis and Incident Heart Failure Risk: The Clone Wars Reach the Myocardium. J. Am. Coll. Cardiol.* 78 (1), 53-55 doi:10.1016/j.jacc.2021.04.084
 Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 27.206*
37. Amorós-Pérez M & **Fuster JJ** (2020). *Clonal hematopoiesis driven by somatic mutations: A new player in atherosclerotic cardiovascular disease. Atherosclerosis.* 297:120-126. doi:10.1016/j.atherosclerosis.2020.02.008
 Journal in the top 25th percentile (Q1, Peripheral Vascular Disease) *IF: 5.162*
38. Khetarpal SA, Qamar A, Bick AG, **Fuster JJ,** Kathiresan S, Jaiswal S and Natarajan P (2019). *Clonal Hematopoiesis of Indeterminate Potential Reshapes Age-Related CVD. J Am Coll Cardiol.* 74 (4), 578-586. doi:10.1016/j.jacc.2019.05.045. PMID: 31345433
 Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 20.589*
39. Viana-Huete V and **Fuster JJ** (2019). *Potential therapeutic value of interleukin 1 β -targeted strategies in atherosclerotic cardiovascular disease. Rev Esp Cardiol.* 72 (9), 760-766. doi:10.1016/j.rec.2019.03.006.
 Journal in the top 25th percentile (Q1, Cardiac & Cardiovascular Systems) *IF: 4.642*

40. **Fuster JJ** (2019). *Integrated Stress Response Inhibition in Atherosclerosis: Preventing the Stressed-Out Plaque.* **J Am Coll Cardiol.** 73(10):1170-1172. doi:10.1016/j.jacc.2019.01.015.
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 20.589*
41. **Fuster JJ** (2018). *TLR4 in Atherogenesis: Paying the Toll for Antimicrobial Defense.* **J Am Coll Cardiol.** 10;71(14):1571-1573. doi:10.1016/j.jacc.2018.02.014.
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 18.639*
42. **Fuster JJ*** and Walsh K* (2018). Somatic *mutations* and clonal hematopoiesis: unexpected potential new drivers of age-related cardiovascular disease. **Circ Res.** 122(3):523-532. doi:10.1161/CIRCRESAHA.117.312115. ***Co-corresponding authors.**
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 15.862*
43. **Fuster JJ***, Ouchi N, Gokce N, Walsh K* (2016). *Obesity-Induced Changes in Adipose Tissue Microenvironment and Their Impact on Cardiovascular Disease.* **Circ Res.** 118(11):1786-807. doi:10.1161/CIRCRESAHA.115.306885. ***Co-corresponding authors**
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 13.965*
44. **Fuster JJ**, Walsh K (2014). *The good, the bad and the ugly of interleukin 6 signaling.* **EMBO J.** 33:1425-1427. doi:10.15252/embj.201488856.
Journal in the top 10th percentile (D1, Cell Biology) *IF: 10.434*
45. Nakamura K, **Fuster JJ**, Walsh K (2014). *Adipokines: A link between obesity and cardiovascular disease.* **J Cardiol.** 63:250-259. doi:10.1016/j.jjcc.2013.11.006.
Journal in the top 50th percentile (Q2, Cardiac & Cardiovascular Systems) *IF: 2.782*
46. **Fuster JJ**, Fernández P, González-Navarro H, Silvestre C, Nabah YN, Andrés V (2010). *Control of cell proliferation in atherosclerosis: insights from animal models and human studies.* **Cardiovasc Res.** 86:254-264. doi:10.1093/cvr/cvp363.
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Journal in the top 50th percentile (Q2, Cell Biology) *IF: 4,999*
48. **Fuster JJ**, Díez J, Andrés V (2007). *Telomere dysfunction in hypertension.* **J Hypertens.** 25:2185-2192. doi:10.1097/HJH.0b013e3282ef6196.
Journal in the top 25th percentile (Q1, Peripheral Vascular Disease) *IF: 4,364*
49. **Fuster JJ**, Sanz-González SM, Moll UM, Andrés V (2007). *Classic and novel roles of p53: prospects for anticancer therapy.* **Trend Mol Med** 13:192-199 doi:10.1016/j.molmed.2007.03.002.
Journal in the top 10th percentile (D1, Medicine, Research & Experimental) *IF 7,244*
50. **Fuster JJ**, Andrés V (2006). *Telomere biology and cardiovascular disease.* **Circ Res.** 99:1167-1180. doi:10.1161/01.RES.0000251281.00845.18.
Journal in the top 10th percentile (D1, Cardiac & Cardiovascular Systems) *IF: 9.854*

Book Chapters

1. **Fuster JJ**, Zuriaga MA and Fuster V (2023). Inflammation as a driver of disease. **Encyclopedia of Cell Biology**. 2nd Edition, edited by Ralph A. Bradshaw, Gerald W. Hart, and Philip D Stahl. ISBN: 978-0-12-821624-8
2. **Fuster JJ** (2015). "*Quantification of cellular proliferation in mouse atherosclerotic lesions*" in "Methods in Mouse Atherosclerosis" of the series "Methods in Molecular Biology" (Elsevier 2015). **Methods Mol Biol.** 1339:201-10. PMID: 26445791
3. **Fuster JJ**, Castillo AI, Zaragoza C, Ibáñez B, Andrés V (2014). "*Animal models of atherosclerosis*" in Progress in Molecular Biology and Translational Science - Animal Models of Molecular Pathology (Elsevier 2014). **Prog Mol Biol Transl Sci.**105:1-23. PMID: 22137427
4. Andres V, **Fuster JJ**, Silvestre-Roig C, Wessely R (2012). "*Modulating the Proliferative Response to Treat Restenosis after Vascular Injury*" in Molecular and Translational Vascular Medicine (Springer 2012). **Mol Transl Vasc Med.** 227-248

ACTIVE RESEARCH SUPPORT

1. *Somatic mutations and clonal hematopoiesis as predictors and drivers of heart failure progression (MyoClonal)*. **La Caixa banking foundation**. P.I and national consortium coordinator. José J. Fuster Period: 01.10.2022-31.09.2025
2. *Mosaic Loss of Y Chromosome in blood and accelerated atherosclerosis development (CLONAL-Y)*. **Ministerio de Ciencia e Innovación**. PI: José J. Fuster. Period: 01/09/2022-31/08/2025.
3. *Somatic mutations and clonal hematopoiesis as drivers of atherosclerosis: from the laboratory to the clinic (AtheroClonal)*. **Ministerio de Ciencia e Innovación**. PI and National Consortium Coordinator: José J. Fuster. Period: 15/12/2021-14/12/2024
4. *Transatlantic Leducq Network on Clonal Hematopoiesis and Atherosclerosis*. **Leducq Foundation**. Network Member: José J. Fuster. Period: 01.01.2020-31.12.2023.
5. *Cancer Therapy-Related Clonal Hematopoiesis as a Driver of Accelerated Atherosclerosis (CHEMICAL consortium)*. **Instituto de Salud Carlos III / European Research Area Network on Cardiovascular Diseases (ERA-CVD)**. P.I and International Consortium Coordinator: José J. Fuster. Period: 01.01.2020-31.12.2023.
6. *Ramón y Cajal Award Grant*. **Ministry of Science and Innovation**. PI: José J. Fuster. Period: 01.09.2018-31.08.2023.

PAST RESEARCH SUPPORT

1. *Hematopoyesis Clonal Inducida Por Mutaciones Somáticas en Tet2 En La Progresión De La Aterosclerosis*. **Ministerio de Ciencia, Innovación y Universidades**. **Programa estatal de I+D+I «Retos Investigación»**. P.I: José J. Fuster. Period: 01.01.2019-31.08.2022
2. *Mutaciones adquiridas en células sanguíneas y hematopoyesis clonal: un posible nuevo mecanismo patogénico de enfermedad cardiovascular aterosclerótica*. **CIBER-CV (Internal Research call)**. Co-PI: José J. Fuster. Period: 01.01.2021-30.06.2022.
3. *Mutaciones somáticas y hematopoyesis clonal en enfermedad cardiovascular aterosclerótica*. **BBVA Foundation - Leonardo Grant for Researchers and Cultural Creators**. P.I José J. Fuster. Period: 01.10.2019-31.03.2021.
4. *Somatic Mutation-driven Clonal Hematopoiesis in Atherosclerosis - International Consortium*. **La Caixa banking foundation**. P.I. Valentín Fuster / Co-Project Leader: José J Fuster. Period: 1.1.2019-31.08.2022

5. *TET2 loss of function-induced clonal hematopoiesis: a new driver of insulin resistance*. **EFSD/Lilly European Diabetes Research Programme #97015. European Foundation for the Study of Diabetes (EFSD)**. P.I José J. Fuster. Period: 01.04.2019-31.03.2020
6. *Somatic TET2 mutation-driven clonal hematopoiesis in atherosclerosis*. **USA National Institutes of Health (NIH-NHLBI)** NIH R01 HL141123-1 P.I José J. Fuster. Period: 01.04.2018-31.12.2023 (*award relinquished on 31.08.2018 upon acceptance of a position outside the USA*)
7. *Role of age-associated TET2 mutations in atherosclerosis*. **American Heart Association (AHA) Scientist Development Grant 17SDG33400213** P.I José J. Fuster. Period: 01.01.2017-31.12.2019 (*award relinquished on 31.08.2018 upon acceptance of a position outside the USA*)

INVITED LECTURES AND PRESENTATIONS (selection from 2011-present)

- 09/2022 “Cancer Therapy-Related Clonal Hematopoiesis as a Driver of Accelerated Atherosclerosis” ERA-Net on Cardiovascular Diseases (ERA-CVD) Symposium 2022, Riga (Latvia) [*Invited Lecture*]
- 09/2022 “Hematopoyesis clonal de significado incierto y enfermedad cardiovascular”. XV Congreso Argentino de Hemostasia y Trombosis 2022, Buenos Aires (Argentina) [*Invited Lecture*]
- 07/2022 “Clonal hematopoiesis: hematopoietic clone wars in the cardiovascular system” American Heart Association Basic Cardiovascular Science Scientific Sessions 2022, Chicago (USA) [*Invited Lecture*]
- 06/2022 “Clonal hematopoiesis and atherosclerosis: hematopoietic clone wars in the arterial wall” DZHK Science on Friday, German Centre for Cardiovascular Research: DZHK, Germany [*Invited Online Lecture*]
- 05/2022 “Clonal hematopoiesis affecting cardiovascular health”. 90th EAS Congress, European Atherosclerosis Society, Milan (Italy) [*Invited Lecture*]
- 05/2022 “Clonal hematopoiesis and cardiovascular complications in cancer patients and survivors” 11th International Conference on Thrombosis & Hemostasis Issues in Cancer (ICTHIC 2022), Bergamo (Italy) [*Invited Lecture*]
- 04/2022 “Clonal hematopoiesis and cardiovascular disease”. University of Glasgow, Scotland [*Invited Online Lecture*]
- 12/2021 “Acquired Mutations and Clonal Hematopoiesis: the Clone Wars in Cardiovascular Disease”. SBM Department Annual Conference - Université de Bordeaux, France [*Invited Keynote Lecture*]
- 10/2021 “Age-Related Mutations and Clonal Hematopoiesis In Atherosclerosis: Beyond Conventional Cardiovascular Risk Factors”. 18th International Symposium on Atherosclerosis, International Atherosclerosis Society, Kyoto, Japan [*Invited Lecture*]
- 09/2021 “Somatic mutations and clonal hematopoiesis in atherosclerotic cardiovascular disease”. Cardiovascular Network Symposium 2021. Aarhus University, Denmark [*Invited Lecture*]
- 06/2021 “Thematic Debate: Clonal Hematopoiesis and Cardiovascular Disease”. European Hematology Association Virtual Congress 2021. [*Invited Online Lecture*]

- 06/2021 “Clonal Hematopoiesis – Links to Atherosclerotic Disease”. British Cardiovascular Society Annual Conference 2021 - BAS/BSCR Joint Online Spring Meeting Online. [*Invited Online Lecture*]
- 03/2021 “Somatic mutations and clonal hematopoiesis in atherosclerosis and beyond”. Harvard Medical School & Brigham and Women’s Hospital Vascular Biology Seminars, Boston, MA, USA [*Invited Online Lecture*]
- 02/2021 “Mutaciones adquiridas: un nuevo factor de riesgo en patología cardiovascular”. 16ª Reunión Internacional sobre Investigación Traslacional y Medicina de Precisión - Bases Genéticas de Enfermedades Comunes. Fundación Instituto Roche/Fundación Jiménez Díaz Hospital. Madrid, Spain. [*Invited Online Lecture*]
- 12/2020 “Somatic mutations and clonal hematopoiesis in cardiovascular and metabolic disease”. Icahn School of Medicine at Mount Sinai – Cardiovascular Research Center Webinar Series. New York, USA *Online*. [*Invited Lecture*]
- 10/2020 “Somatic mutations and clonal hematopoiesis in age-related cardiovascular and metabolic disease”. Adipose Tissue Metabolism and Cardiovascular Diseases Symposium, Université de Lausanne, Switzerland. *Online*. [*Invited Lecture*]
- 10/2020 “Hematopoyesis clonal: ¿nuevo factor de riesgo cardiovascular?” Congreso SEC 2020, Spanish Society of Cardiology, Spain [*Invited Online Lecture*]
- 10/2020 “Hematopoyesis clonal e inflamación vascular: nuevas implicaciones en la enfermedad cardiovascular aterotrombótica” LXII Congreso Nacional SEHH, Spanish Society of Hematology and Hemotherapy, Spain [*Invited Online Lecture*]
- 09/2020 “Consequences of epigenetic gene mutations on CVD progression and therapeutic implications”. European Society of Cardiology Congress 2020. [*Invited Online Lecture*]
- 08/2020 “Somatic mutations and clonal hematopoiesis: emerging risk modifiers in atherosclerosis and beyond”. Cardiometabolism Virtual Seminar Series 2020. *Online*. [*Invited Lecture*]
- 05/2020 “Somatic mutations and clonal hematopoiesis in inflammation and cardiovascular disease”. Joint Meeting on Vascular Biology, Inflammation and Thrombosis, Medical University of Vienna, Austria. *Online*. [*Invited Lecture*]
- 01/2020 “Clonal Haematopoiesis in heart failure”. European Society of Cardiology Heart Failure Winter Meeting 2020. Les Diablerets, Switzerland. [*Invited Lecture*]
- 12/2019 “Somatic mutations and clonal hematopoiesis in cardiovascular disease: commonalities with cancer”. Josep Carreras Leukemia Research Foundation. Badalona, Spain. [*Invited Lecture*]
- 11/2019 “TET2 - a new driver of age-related CVD”. American Heart Association Scientific Sessions 2019. Philadelphia, PA, USA. [*Invited Lecture*]
- 09/2019 “Clonal hematopoiesis - an emerging risk modifier in atherosclerosis”. European Society of Cardiology Congress 2019. Paris, France. [*Invited Lecture*]
- 07/2019 “Somatic mutations and clonal hematopoiesis as drivers of inflammation and cardiovascular disease. 39th Spanish Society of Pharmacology (SEF) Meeting. Las Palmas de Gran Canaria, Spain [*Invited Plenary Lecture*]

- 06/2019 “Mutaciones somáticas y hematopoyesis clonal: Nuevas implicaciones en la enfermedad cardiovascular”. XXXII Congress of the Spanish Arteriosclerosis Society (SEA). Valencia, Spain. [*Invited Lecture*]
- 02/2019 “Somatic mutations and clonal hematopoiesis in cardiovascular disease: commonalities with cancer”. Centro Nacional de Investigaciones Oncológicas (CNIO). Madrid, Spain. [*Invited Lecture*]
- 01/2019 “Somatic mutation-driven clonal hematopoiesis: a new player in atherosclerotic and cardiometabolic disease”. International Workshop: Clonal hematopoiesis and radiation-associated diseases. Radiation Effects Research Foundation (RERF). Hiroshima, Japan. [*Invited Lecture*]
- 12/2018 “Age-related somatic mutations and risk of atherosclerotic disease”. IV UIMP/IBiS School of Biomedicine. Sevilla, Spain. [*Invited Lecture*]
- 09/2018 “Mutaciones somáticas y hematopoyesis clonal en enfermedad cardiovascular aterosclerótica”. Center for Applied Medical Research (CIMA). Pamplona, Spain. [*Invited Lecture*]
- 11/2017 “Somatic TET2 Mutation-induced Clonal Hematopoiesis: A new driver of Atherogenesis”. American Heart Association Scientific Sessions 2017 - Frontiers in Science Symposium, Anaheim, CA. [*Invited Lecture*]
- 06/2017 “Somatic mutation-induced clonal hematopoiesis: a new driver of atherosclerosis”. University of Virginia Cardiovascular Research Center, Charlottesville, VA. [*Invited Lecture*]
- 05/2017 “Somatic mutation-induced clonal hematopoiesis: a new driver of atherosclerotic cardiovascular disease”. Boston University Whitaker Cardiovascular Institute. Boston, MA. [*Invited Lecture*]
- 05/2017 “Somatic mutation-induced clonal hematopoiesis: a new driver of atherosclerotic cardiovascular disease”. Spanish National Cardiovascular Research Center (CNIC). Madrid, Spain. [*Invited Lecture*]
- 11/2014 “Non-canonical Wnt signaling: a new player in adipose tissue inflammation”, Boston University Immune Cells and Metabolism Symposium. Boston, MA. [*Invited Lecture*]
- 05/2011 “Cardiovascular disease, diabetes and lifestyle”, Berzelius Symposium - Telomere biology in health and disease – a crystal ball for the future? Swedish Society of Medicine, Stockholm, Sweden. [*Session Chair/Discussion Leader*]

PATENTS

Title: Age-associated clonal hematopoiesis accelerates cardio-metabolic disease development

Inventors: Kenneth Walsh and **José Fuster**. Assignee: Boston University

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