

CURRICULUM VITAE

José Javier Fuster, Ph.D.

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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)
2020 – present	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 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 epidemiological 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 *Irvine H. Page Young Investigator Finalist Award 2018*; American Heart Association; in recognition of the potential to become a future leader in cardiovascular research
- 04/2018 *EAS Young Investigator Award 2018*, European Atherosclerosis Society; in recognition of the outstanding contribution to knowledge in the field of atherosclerosis and related diseases.
- 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:

- 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:

- 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-present *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 *Guest Associate Editor*, *Frontiers in Cardiovascular Medicine* – Section on Cardiovascular Metabolism
- 2018-present *Grant Reviewer*, European Research Council (ERC-AdG), 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: *Science Translational Medicine*; *Journal of the American College of Cardiology*; *Circulation*; *Circulation Research*; *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

- María A. Zuriaga, PhD (Postdoctoral Associate (2019-2021))
Vanessa Viana-Huete, PhD - Postdoctoral Associate (2018-2019)
Jelena Eric - Undergraduate Student (2019)
Alba Ferrer - M.S. Student (2019/2020)
Asier Iturrate – M.S. Student (2019/2020)

Current postdoctoral scientists

- M^a Carmen Asensio, PhD (since 2021)
Nuria Matesanz, PhD (since 2019)

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, former M.S. student in the laboratory)
Rosa Moro (since 2019)

SCIENTIFIC BIBLIOGRAPHY

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

Publons/ResearcherID: [D-3685-2011](https://publons.com/author/publons/36852011)

Google Scholar: [Scholar Profile](#)

Metrics

- 49 scientific publications
>3600 citations, h-index: 24 (Google Scholar data)
>2600 citations, h-index 23 (Web of Science/JCR data)

Research Articles

* When available, impact factor and journal impact factor rank (top 10th or 25th percentile within a specific WOK/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* (2021). *TP53-mediated clonal hematopoiesis confers increased risk for incident peripheral artery disease.* *medRxiv* (preprint) doi:10.1101/2021.08.22.21262430. *Co-corresponding authors.
2. 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.)*, S1885-5857 (21) 00158-4
IF 4.753 Journal in the top 50th percentile (Cardiac & Cardiovascular Systems)
3. 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.* Apr 13;77(14):1747-1759. Accompanied by an *Editorial* in *J. Am. Coll. Cardiol.* (doi: 10.1016/j.jacc.2021.02.045) *Co-corresponding authors.
IF: 24.093 Journal in the top 10th percentile (Cardiac and Cardiovascular Systems)
4. **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.
IF: 9.42; Journal in the top 25th percentile (Cell Biology)
5. 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.* Mar 26;5(6). pii 135204. doi: 10.1172/jci.insight.135204.
IF: 6.01; Journal in the top 10th percentile (Medicine, Research & Experimental).
6. 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.* 2018 Feb 27;71(8):875-886. doi: 10.1016/j.jacc.2017.12.037. Accompanied by an *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)
IF: 18.64 Journal in the top 10th percentile (Cardiac and Cardiovascular Systems)
7. 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.org/10.1016/j.yjmcc.2018.01.010.
IF: 5.0 Journal in the top 25th percentile (Cardiac and Cardiovascular Systems)

8. 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

IF: 4.12

Journal in the top 25th percentile (Multidisciplinary Sciences)

9. **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.**

IF: 41.06

Journal in the top 10th percentile (Multidisciplinary Sciences)

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>

10. 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. PMID: 28724439

IF 4.27

Journal in the top 25th percentile (Rheumatology)

11. 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**. 2017 May 5;4:27. doi: 10.3389/fcvm.2017.00027. PMID: 28529941

IF: 6.05

Journal in the top 25th percentile (Cardiac & Cardiovascular Systems)

12. 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. PMID: 26800561

IF: 5.97

Journal in the top 10th percentile (Peripheral Vascular Disease)

13. 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. PMID: 27688298

IF: 1.3

14. 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. PMID: 26631720 PMCID: PMC4742726
IF: 4.6 Journal in the top 25th percentile (Biochemistry & Molecular Biology)
15. 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. PMID: 26721917
IF: 6.8 Journal in the top 10th percentile (Cardiac & Cardiovascular Systems)
16. 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. PMID: 25908026
IF: 4.9 Journal in the top 25th percentile (Cardiac & Cardiovascular Systems)
17. **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. PMID: 25352637
IF: 8.8 Journal in the top 10th percentile (Endocrinology & Metabolism)
18. 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. PMID: 25362254
IF: 27.4 Journal in the top 10th percentile (Medicine, Research and Experimental)
19. Yoshida S, **Fuster JJ**, Walsh K (2014). *Adiponectin attenuates abdominal aortic aneurysm formation in hyperlipidemic mice*. **Atherosclerosis**. 235(2):339-346. PMID: 24911638
IF: 4.0 Journal in the top 25th percentile (Peripheral Vascular Disease)
20. 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. PMID: 24482236 PMCID: PMC3961686
IF: 4.6 Journal in the top 25th percentile (Biochemistry & Molecular Biology)
21. 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. PMID: 23991137 PMCID: PMC3750002
IF: 3.5 Journal in the top 25th percentile (Multidisciplinary Sciences)
22. **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. PMID: 22226369
IF: 3.7 Journal in the top 25th percentile (Peripheral Vascular Disease)

23. **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. PMID: 21885849*
IF: 6.4 Journal in the top 10th percentile (Peripheral Vascular Disease)
24. **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. PMID: 20228253*
IF: 6.5 Journal in the top 10th percentile (Biology)
25. 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. PMID: 17570351*
IF: 6.1 Journal in the top 10th percentile (Cardiac & Cardiovascular Systems)
26. 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. PMID: 17321057*
IF: 3.4

Invited Reviews and Editorials

27. Tall A* and **Fuster JJ*** (2022). *Clonal Hematopoiesis In Cardiovascular Disease And Therapeutic Implications. **Nature Cardiovascular Research.*** In press. *Co-corresponding authors
28. Fuster JJ (2021). *Clonal Hematopoiesis and Cardiovascular Disease in Cancer Patients and Survivors. **Thrombosis Research.*** In press.
29. Zuriaga Ma and Fuster JJ (2021). *Clonal hematopoiesis and atherosclerotic cardiovascular disease: A primer. **Clinica e Investigación en Arteriosclerosis.*** In press; <https://doi.org/10.1016/j.arteri.2021.09.006>
30. 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; <https://doi.org/10.1253/circj.CJ-21-0505>
31. Sánchez-Cabo and Fuster JJ (2021). *Clonal haematopoiesis and atherosclerosis: a chicken or egg question?* *Nature Reviews Cardiology* 18:463–464.
32. Fuster JJ (2021). *Clonal Hematopoiesis and Incident Heart Failure Risk: The Clone Wars Reach the Myocardium. **J. Am. Coll. Cardiol.*** 78 (1), 53-55
33. 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
34. 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

35. Viana-Huete V and **Fuster JJ** (2019). *Potential therapeutic value of interleukin 1 β -targeted strategies in atherosclerotic cardiovascular disease.* **Rev Esp Cardiol.** pii:S1885-5857(19)30082-9. doi: 10.1016/j.rec.2019.03.006.
36. **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. PMID: 30871700
37. **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 PMID: 29622164
38. **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. PMID: 29420212 * **Co-corresponding authors**
39. **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. PMID: 27230642 PMCID: PMC4887147 * **Co-corresponding authors**
40. **Fuster JJ**, Walsh K (2014). *The good, the bad and the ugly of interleukin 6 signaling.* **EMBO J.** 33:1425-1427. PMID: 24850773 PMCID: PMC4194086
41. Nakamura K, **Fuster JJ**, Walsh K (2014). *Adipokines: A link between obesity and cardiovascular disease.* **J Cardiol.** 63:250-259. PMID: 24355497 PMCID: PMC3989503
42. **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. PMID: 19900964
43. **Fuster JJ**, Andrés V (2010). *A role for miR-33 in p53 regulation: New perspectives for hematopoietic stem cell research.* **Cell Cycle.** 9(17):3397-8. doi: 10.4161/cc.9.17.13070. PMID: 20861665
44. **Fuster JJ**, Díez J, Andrés V (2007). *Telomere dysfunction in hypertension.* **J Hypertens.** 25:2185-2192. PMID: 17921808
45. **Fuster JJ**, Sanz-González SM, Moll UM, Andrés V (2007). *Classic and novel roles of p53: prospects for anticancer therapy.* **Trends Mol Med.** 13:192-199. PMID: 17383232
46. **Fuster JJ**, Andrés V (2006). *Telomere biology and cardiovascular disease.* **Circ Res.** 99:1167-1180. PMID: 17122447

Book Chapters

47. **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
48. **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
49. Andrés 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 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
2. *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: 01.01.2020-31.12.2022.
3. *Transatlantic Leducq Network on Clonal Hematopoiesis and Atherosclerosis*. **Leducq Foundation**. **Partner**: José J. Fuster. Period: 01.01.2020-31.12.2023.
4. *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: 01.01.2019-31.12.2021 (extended to 31/08/2022)

PAST RESEARCH SUPPORT

1. *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.
2. *Somatic Mutation-driven Clonal Hematopoiesis in Atherosclerosis - International Consortium*. **La Caixa banking foundation**. **P.I. Valentín Fuster / Co-Project Leader**: José J Fuster. Period: 1.1.2019-31.12.2021
3. *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
4. *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*)
5. *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)

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| 12/2021 | “Acquired Mutations and Clonal Hematopoiesis: the Clone Wars in Cardiovascular Disease”. <u>SBM Department Annual Conference - Université de Bordeaux, France</u> [Invited Keynote Lecture] |
| 09/2021 | “Somatic mutations and clonal hematopoiesis in atherosclerotic cardiovascular disease”. <u>Cardiovascular Network Symposium 2021. Aarhus University, Denmark</u> [Invited Lecture] |
| 06/2021 | “Thematic Debate: Clonal Hematopoiesis and Cardiovascular Disease”. <u>European Hematology Association Virtual Congress 2021</u> . [Invited Online Lecture] |
| 06/2021 | “Clonal Hematopoiesis – Links to Atherosclerotic Disease”. <u>British Cardiovascular Society Annual Conference 2021 - BAS/BSCR Joint Online Spring Meeting Online</u> . [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]
- 09/2020 “Consequences of epigenetic gene mutations on CVD progression and therapeutic implications”. European Society of Cardiology Congress 2020. *Online*. [Invited 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 hematopoesis 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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