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Nationality Italian
Career breaks Feb. 2008 to Dec. 2008 First maternity leave; 10 months
Feb. 2013 to Oct. 2013 Second maternity leave; 8 months

CURRENT POSITION

Position **Group Leader – Stem Cell Aging Lab**
Initial date 01.01.2020
Institution Bellvitge Institute for Biomedical Research (IDIBELL)
Department/Center Regenerative Medicine
Country Hospital Duran i Reynals, Gran Via de l'Hospitalet, 199-203, 08908
L'Hospitalet de Llobregat (Barcelona), Spain
Key words Stem cells, aging, epigenetics, niche, regeneration

PREVIOUS POSITIONS

Period	Position/Institution/Country/Interruption cause
11.2018-12.2019	Group Leader – Stem Cell Aging Lab/Centre of Regenerative Medicine (CMRB)/Spain/Incorporation with IDIBELL
01.2016-10.2018	Emmy Noether Group leader- University of Ulm/Germany/This position was incompatible with my affiliation to CMRB (Spain). It was changed into a temporary Guest Group Leader position, which ended on 31.12.2020.

EDUCATION

	University/Country	Year
Visiting Post Doc	Cincinnati Children's Hospital Medical Center, Cincinnati, USA	2011
Visiting Post Doc	Otto von Guericke University, Magdeburg, Germany	2010
Post Doc fellow	University of Ulm, Germany	2009-2015
PhD in Endocrinology	University of Milan, Italy	2004-2008
M.Sc Pharmaceutical Biotechnology	University of Milan, Italy	2002-2004
B.Sc Biotechnology	University of Milan, Italy	1999-2002

CV SUMMARY

I established my research group in January 2016, after being awarded an extremely prestigious grant from the German Research Foundation (DFG, Emmy Noether Grant) dedicated to outstanding early-career researchers (total amount: 1.203.480 € for the first 3 years; renewal for the same amount, eventually declined based on incompatibility with the new appointment in Spain). This grant supported the setting up of my independent research group focused on Epigenetics of Stem Cell Aging at the University of Ulm (Germany).

At the end of 2018, I won a competitive selection based on the evaluation of an international committee and I obtained a tenure-track Group Leader position at the Centre for Regenerative Medicine in Barcelona (CMRB, now Program for advancing the Clinical Translation of Regenerative Medicine of Catalonia, P-CMR[C] [P-CMRC](#)) supported by the Catalan Government with a starting package of around 1.200.000 € for 5 years (2019-2023). In January 2020, P-CMR[C] eventually joined IDIBELL and I also became Group leader of the Stem Cell Aging Lab within the Program of Regenerative Medicine of IDIBELL ([IDIBELL](#)).

During my career as group leader, I have been able to win extremely competitive grants from the German, Spanish, and European funding agencies. Notably, beside the prestigious **Emmy Noether Grant** in 2016, I was awarded 2 other independent grants by the DFG for a total amount of 950.000 €. After moving to Spain, I won the prestigious **Ramón y Cajal** fellowship by the Spanish Ministry, which is aimed at promoting the incorporation of international researchers with an outstanding track record. Furthermore, I obtained additional funding to my research by the Spanish Ministry of Science. More recently, I also won very competitive calls as the **2020 LaCaixa Health Research Foundation Grant** (success rate of ~3%) and the **2020 ERC Consolidator Grant** (success rate of ~13%) by the European Research Council (total awarded amount >2.800.000 €). All these extremely competitive funding provide a critical recognition of my scientific career as an innovative and independent investigator.

My team currently includes two research assistants, three post-docs, three PhD students, one bioinformatician and one technician. I am truly committed to not discriminate against candidates in any way based on gender, age, ethnic, national or social origin, religion or belief, sexual orientation, language, disability, political opinion, social or economic condition. At the moment my team is composed by scientists coming from different European countries (60% of non-Spanish scientists) and most of my team members are female scientists (80%). Our research aims at further growing our understanding of mechanisms driving stem cell aging. We focus mainly on epigenetic alterations and on the role of the microenvironment in affecting the function of aged somatic stem cells (hematopoietic, skeletal muscle, vascular endothelial and kidney stem cells). Our work aims at improving the regenerative capacity of aged somatic stem cells to preserve tissue homeostasis and eventually extend organism healthspan and lifespan. This represents for me an exciting field of research to develop new therapeutic strategies and foster clinical translation of stem cell-based therapies to improve tissue regeneration with age and to prevent aging-associated diseases. To pursue our research goals, we combine single-cell profiling (single cell RNAseq and ATACseq; single cell RNA/DNA FISH, single cell 3D immunofluorescence, single cell transplants) with molecular biology, flow cytometry and FACS sorting, advanced optical/confocal microscopy and analysis, whole-mount histology, *in vivo* mouse models, *in silico* computational modelling and deep learning strategies. Using these approaches and bridging knowledge from different fields (stem cell biology, aging, hematology and epigenetics), we continue to provide key contributions to the stem cell aging field which have led to several exciting findings (*see section Publications*).

Institutional responsibilities - PhD Student Supervisor for the University of Barcelona, Spain ([Doctoral Program in Biomedicine](#)). Member of the IDIBELL Seminar Series Committee and of the IDIBELL Teaching Committee. My duties involve the recruitment of international speakers and the organization of

internal talks addressed to early career scientists. I am also part of the Executive Committee of the Scientific and Technical Services (SCT) of IDIBELL.

Supervision of graduate students and postdoctoral fellows

From 2018 to now (at IDIBELL, Spain): 3 Post-docs (Francesca Matteini, Surya Cayre, Rebecca Andersson); 2 PhD students (Barbara Walter, Alba Ferrer Perez); 2 ERASMUS Master students.

From 2012 to 2018 (at UniUlm, Germany): 3 Post-docs (Ani Grigoryan, Noelle J. Ali, Polina Zjablovskaja); 4 PhD students (co-supervision with Prof. H. Geiger; Mehmet Sacma: thesis defense August 2019, Katharina Sanger: thesis defense November 2017, Ani Grigoryan: thesis defense August 2017; Novella Guidi: thesis defense May 2015.); 3 Master Students.

Lecturer activities

- 2016-2018: Lecturer, within the International Graduate School in Molecular Medicine of Ulm University (IGradU). I was also actively involved in the recruitment of guest speakers for the international seminar series on “Stem cell aging” within the Graduate School and I organized Journal Clubs and scientific report meetings within the Institute of Molecular Medicine at Ulm University.
- 2005-2007: Laboratory supervisor and lecturer, course: Cell biology, Pharmaceutical Biotechnology, Faculty of Pharmacy, University of Milan, Italy
- 2005-2007: Laboratory supervisor and lecturer, course: Evolution and Biodiversity, Pharmaceutical Biotechnology, Faculty of Pharmacy, University of Milan, Italy

Reviewer/Examiner activities

PhD thesis

- 2021-External Examiner for the PhD School of CNIC, Madrid, Spain and for the PhD School of the Vienna BioCenter, Vienna, Austria; Internal Examiner for the PhD Thesis of 2 pre-doctoral candidates for the University of Barcelona (Doctoral Program in Biomedicine).
- 2019-2020-External Examiner for the PhD School of Cambridge, University of Cambridge, United Kingdom
- 2017-External Examiner for the PhD School of IFOM, European School of Molecular Medicine, Milan, Italy

Grant reviewer for the German Research Foundation (DFG, Germany; year 2017, 2018), the Human Frontier Science Program (HFSP, year 2018) and the REWIRE program (Reinforcing Women in Research, University of Wien, Austria, year 2019), the Swiss Cancer League (KLS, Bern, Switzerland, year 2020, 2 grants), the Agence Nationale de la Recherche (ANR, France, year 2020), the Israel Science Foundation (ISF, year 2021), the Children Cancer-free Foundation (Stichting Kinderen Kankervrij, KiKa, The Netherlands, year 2021) and the European Research Council (ERC-StG, year 2021).

External Committee Reviewer of one of the Group Research Program at the MRC Molecular Haematology Unit at the University of Oxford, UK.

Journal reviewer for: Nature, Aging Cell, Nature Cell Biology, Genome Biology, Stem Cell and Development, Scientific Reports, Journal of Gerontology, Haematologica, JoVe, Blood, Nature Communication, EMBO Journal

Major collaborations

Prof. Anna Bigas (topic: Hematopoietic stem cells and Notch; IMIM, Barcelona, Spain), Prof. Simon Mendez-Ferrer (topic: Hematopoietic stem cell niche; University of Cambridge, UK), Prof. Hiroshi Kimura (topic: epigenetics; TIT, Japan), Dr. Medhanie Mulaw (topic: bioinformatics and artificial intelligence; Cancer Center, Ulm, Germany), Prof. Hartmut Geiger (topic: Hematopoietic stem cells and aging; Uni Ulm, Germany), Dr. Jan-Philipp Mallm (topic: single cell sequencing; DKFZ, Germany), Prof. Christoph Plass (topic: epigenetics; DKFZ, Germany), Prof. Yi Zheng (topic: Hematopoietic stem cells

and small RhoGTPases; CCHMC, USA), Dr. Ingmar Glauche (topic: mathematical models; TUD, Germany), Dr. Michael Milsom (topic: Hematopoietic stem cells; Hi-Stem, DKFZ, Germany), Prof. Jose Cancelas (topic: Hematopoietic stem cells; CCHMC, USA), Prof. Manuel Serrano (topic: Senescence and cell plasticity; IRB, Barcelona), Dr. Anna Sola (Topic: Regeneration of kidney progenitor cells; IDIBELL, Barcelona), Dr. Montserrat Arnan (Topic: Acute Myeloid Leukemia; Hematology ICO, Barcelona) .

Networks

- Biomedical applications of iPS cell technology - iPS4BioMed (2017 SGR 899) Agency: AGAUR 2017-2020. PI: Ángel Raya (2018-2021)
- CIBER: Bioingeniería, Biomateriales y Nanomedicina (CB06/01/1056) Agency Instituto de Salud Carlos III PI: Dr. Ángel Raya (2008-ongoing)

Innovation & translational activities

I am currently exploring with different international and national investors the possibility of transferring the know-how generated in my lab for the translation of our findings into pre-clinical and clinical trials. Among others, we have under consideration a collaboration proposal with CambrianBio (<https://www.cambrianbio.com/>) for the development of an anti-aging lead compound for targeting the rejuvenation of somatic stem cells and possibly move into clinical trials.

Moreover, I have been selected to present for the Accelerator Meeting Point IV (<https://amp.idibell.cat/>), organized by IDIBELL Innovation Department to bridge scientific research and investors partners (Barcelona, December 2021).

RESEARCH INTEREST

My research in the past years strongly challenged the concept that aging is an irreversible process. Since 2016, in my team we investigate the role of epigenetics and of the stem cell microenvironment in driving aging of somatic stem cells. Our scope is to define possibilities to target aging and functionally rejuvenate stem cells and tissues and possibly extend healthspan and lifespan. To pursue our pioneering research goals, we combine several cutting-edge technologies, and we bridge knowledge from interdisciplinary scientific fields.

For example, my team has shown that young hematopoietic stem cells (HSCs) establish epigenetic polarity (epi-polarity) based on H4K16ac distribution in the nucleus, while aged HSCs are mainly apolar. Epi-polarity underlies chromatin architecture changes with aging in stem cells that drive the functional impairments of aged HSCs (*see section Publications*). We investigated different small molecule inhibitors to target the chromatin architecture in aged stem cells and to restore epi-polarity. Treatment with some specific inhibitors can also restore function of aged HSCs and their epigenetic asymmetry during division. We are currently further exploring treatments with these inhibitors to target skeletal muscle stem cells and overall organism lifespan and healthspan (*manuscript under submission*).

In addition, we showed that bone marrow sinusoids are the unique niche which preserves HSC regenerative capacity on aging. By deep learning approaches, we demonstrated that the localization within the bone marrow has predictive value to the function of stem cells, being able to discriminate young or old stem cells based on the distance to a set of specific niche cells. Moreover, we demonstrated that in aged mice chemotherapy exerts its negative side-effect primarily by disrupting the sinusoidal niche, which is not able to regenerate leading to myelosuppression and reduced survival (*see section Publications*).

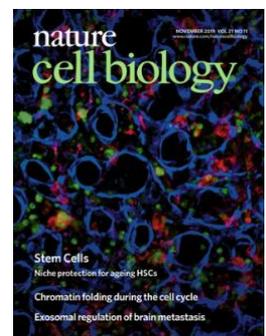
Altogether, our findings were published in prestigious scientific journals and are under further investigations now in my lab at IDIBELL for their translational potential in the improvement of stem cell regenerative capacity in the elderly in the context of chemotherapy and physiological aging. Our line of research is absolutely pioneering and cutting-edge, driven by the aim of developing new therapeutic strategies and foster clinical translation of stem cell-based therapies to improve tissue attrition with age, prevent aging-associated diseases and extend lifespan.

PUBLICATIONS

I have a total of 35 publications (full list in [PubMed](#) or [ORCID](#)) in high impact factor journals including for example Nature, Cell, Nature Cell Biology, Cell Stem Cell, Genome Biology. Of these publications, 8 are as first author and 10 as corresponding author; 31 without my PhD supervisor. My total number of citations is 2440 (1795 since 2017). H-index: 19; i-index: 23 (ISI/[Google Scholar](#)). Below the most relevant publications.

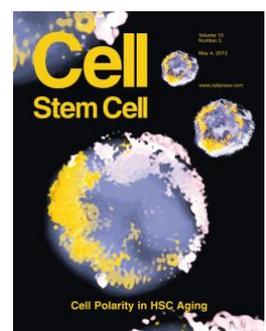
Publications as senior/corresponding authors:

- Matteini, F., Mulaw, M.A., and **Florian, M.C.** (2021). Aging of the Hematopoietic Stem Cell Niche: New Tools to Answer an Old Question. *Frontiers in Immunology* 12, 4492.
- Grigoryan, A., Pospiech, J., Krämer, S., Lipka, D., Liehr, T., Geiger, H., Kimura, H., Mulaw, M.A., and **Florian, M.C.** (2021). Attrition of X Chromosome Inactivation in Aged Hematopoietic Stem Cells. *Stem Cell Reports* 16, 708–716.
- **Florian M.C.***, Leins H., Gobs M., Han Y., Marka G., Soller K., Vollmer A., Sakk V., Nattamai K.J., Rayes A., Zhao X., Setchell K., Mulaw M., Wagner W., Zheng Y., Geiger H.* (2020) Inhibition of Cdc42 activity extends lifespan and decreases circulating inflammatory cytokines in aged female C57BL/6 mice. *Aging Cell*. Sep;19(9):e13208. *corresponding authors
- Sacma, M., Pospiech, J., Bogeska, R., de Back, W., Mallm, J. P., Sakk, V., Soller, K., Marka, G., Vollmer, A., Karns, R., Cabezas-Wallscheid, N., Trumpp, A., Mendez-Ferrer, S., Milsom, M. D., Mulaw, M. A., Geiger, H., and **Florian, M. C.** (2019) Haematopoietic stem cells in perisinusoidal niches are protected from ageing. *Nat Cell Biol* 21, 1309-1320. Cover of the *Nat Cell Biol* of November 2019 (Issue 11)
- Grigoryan, A., Guidi, N., Senger, K., Liehr, T., Soller, K., Marka, G., Vollmer, A., Markaki, Y., Leonhardt, H., Buske, C., Lipka, D. B., Plass, C., Zheng, Y., Mulaw, M. A., Geiger, H., and **Florian, M. C.** (2018) LaminA/C regulates epigenetic and chromatin architecture changes upon aging of hematopoietic stem cells. *Genome Biol* 19, 189
- **Florian, M. C.***, Klose, M., Sacma, M., Jablanovic, J., Knudson, L., Nattamai, K. J., Marka, G., Vollmer, A., Soller, K., Sakk, V., Cabezas-Wallscheid, N., Zheng, Y., Mulaw, M. A., Glauche, I., and Geiger, H.* (2018) Aging alters the epigenetic asymmetry of HSC division. *PLoS Biol* 16, e2003389*corresponding authors
- Mejia-Ramirez, E., and **Florian, M. C.** (2020) Understanding intrinsic hematopoietic stem cell aging. *Haematologica* 105, 22-37 (Invited review)
- Zjablovskaja, P., and **Florian, M. C.** (2020) Acute Myeloid Leukemia: Aging and Epigenetics. *Cancers* 12 (Invited review)
- Mejia-Ramirez E., Geiger H., **Florian M.C.** (2020) Loss of epigenetic polarity is a hallmark of hematopoietic stem cell aging. *Hum Mol Genet*. Oct 20;29(R2):R248-R254. (Invited review)



Original research articles as main author during postdoc and PhD training:

- **Florian, M. C.**, Dorr, K., Niebel, A., Daria, D., Schrezenmeier, H., Rojewski, M., Filippi, M. D., Hasenberg, A., Gunzer, M., Scharffetter-Kochanek, K., Zheng, Y., and Geiger, H. (2012) Cdc42 activity regulates hematopoietic stem cell aging and rejuvenation. *Cell Stem Cell* 10, 520-530. Cover of the *Cell Stem Cell* issue of May 2012 (Issue 5). Previewed by Carrillo-Garcia C. and Janzen V. in *Cell Stem Cell*. “Restoring Cell Polarity: An HSC Fountain of Youth”
- **Florian, M. C.**, Nattamai, K. J., Dorr, K., Marka, G., Uberle, B., Vas, V., Eckl, C., Andra, I., Schiemann, M., Oostendorp, R. A., Scharffetter-Kochanek, K., Kestler, H. A., Zheng, Y., and Geiger, H. (2013) A canonical to non-canonical Wnt signalling switch in haematopoietic stem-cell ageing. *Nature* 503, 392-396. Previewed by Verovskaya E. and de Haan G. in *Cell Stem Cell*. “Noncanonical Wnt comes of age in hematopoietic stem cells”



- Geiger, H., de Haan, G., and **Florian, M. C.** (2013) The ageing haematopoietic stem cell compartment. *Nat Rev Immunol* 13, 376-389 (*Invited review*)
- **Florian, M. C.**, Klenk, J., Marka, G., Soller, K., Kiryakos, H., Peter, R., Herbolzheimer, F., Rothenbacher, D., Denking, M., and Geiger, H. (2017) Expression and Activity of the Small RhoGTPase Cdc42 in Blood Cells of Older Adults Are Associated With Age and Cardiovascular Disease. *J. Gerontol. A. Biol. Sci. Med. Sci.* 72, 1196-1200
- **Florian M.C.**, Geiger H. (2010) Concise review: polarity in stem cells, disease, and aging. *Stem Cells* 28: 1623-97.
- Evangelisti C.*, **Florian M.C.***, Massimi I., Dominici C., Giannini G., Galardi S., Bue M.C., Massalini S., McDowell H.P., Messi E., Gulino A., Farace M.G., Ciafre S.A. (2009) MiR-128 up-regulation inhibits Reelin and DCX expression and reduces neuroblastoma cell motility and invasiveness. *FASEB J* 23: 4276-87 **equal contribution*
- Messi E.*, **Florian M.C.***, Caccia C., Zanisi M., Maggi R. (2008) Retinoic acid reduces human neuroblastoma cell migration and invasiveness: effects on DCX, LIS1, neurofilaments-68 and vimentin expression. *BMC Cancer* 8: 30 **equal contribution*

Additional significant scientific contributions:

I am named **Inventor of an International Application** No. PCT/US2013/038912 (April 30, 2012) assigned to the University of Ulm, Germany. This patent involves the administration of CASIN to rejuvenate hematopoietic stem and progenitor cells, which has been renewed on May 29, 2018 (US9980942B2). I have also served as **Scientific Editor** of “Stem cell aging: Mechanisms, Consequences, Rejuvenation” together with Prof. Henrich Jasper (Buck Institute, Novato, CA, USA) and Prof. Hartmut Geiger, the first comprehensive book on stem cell aging and rejuvenation (book prepared for Springer DE, 2015).

FELLOWSHIPS, AWARDS, HONORS AND MEMBERSHIP

Ramon Y Cajal: Spanish tenure-track program to attract emerging talents	Barcelona, Spain Jan. 2020
Emmy Noether: Grant from the German Research Foundation (DFG) awarded to outstanding early-career researchers to establish an independent group	Ulm, Germany Jan 2016
ISEH-Travel Award supported by the International Society for Experimental Hematology	Kyoto, Japan Sept. 2015
Else Kröner-Fresenius Travel Award EKF Symposium on Adult Stem Cells in Aging, Diseases and Cancer	Erice, Italy May. 2015
Member of the International Society of Experimental Hematology (ISEH)	Since 2015
Betty Jean Ogawa Memorial Poster Award recognizing most outstanding posters presented at ISSCR Annual Meeting	Vancouver, Canada Jun. 2014
ISSCR-Travel Award supported by the International Society for Stem Cell Research	Vancouver, Canada Jun. 2014
Egon Macher Award for the young investigator outstanding research contributions Supported by ADF (Arbeitsgemeinschaft Dermatologische Forschung)	Köln, Germany Mar. 2014
Member of the German Stem Cell Network (GSCN)	Since 2013
Member of the German Society for Aging Research	Since 2013
ISSCR-Travel Award supported by the International Society for Stem Cell Research	Yokohama, Japan Jun 2012
Stem Cell Grant, sponsored by BD Biosciences Research Program Project title: "Impact of cell polarity on hematopoietic stem cell division and aging"	Ulm, Germany Feb. 2012
Young fellow start-up grant of the Department of Medicine, Ulm University Project title: "The role of Wnt5a signalling in hematopoietic stem cell aging"	Ulm, Germany Jan. 2011
ISSCR-Travel Award supported by the International Society for Stem Cell Research	San Francisco, USA Jun 2010
Member of the International Society for Stem Cell Research (ISSCR) since 2010	Since 2010
PhD Fellowship awarded by the University of Milan, Italy	Milan, Italy Sept. 2004

PRESENTATIONS (selected)

Invited speaker at the Molecular Haematopoiesis Conference, Francis Crick Institute	London, UK Nov. 2021
Invited Faculty speaker at 12th course on Developmental Biology, Institut Curie	Paris, France Oct. 2021
Invited speaker at the 8th Annual Aging Research and Drug Discovery (ARDD) meeting	Copenhagen, DK Sep. 2021
Invited Faculty speaker at the “Club Hématopoïèse et Oncogénèse” (CHO-Hematopoiesis and Oncogenesis Club)	Nice, France Sep. 2021
Invited Faculty speaker at 2021 Virtual EHA Germany (Jun 2021)	Frankfurt, Germany Jun. 2021
Invited speaker at the symposium “Immune system in sickness and in health”, Josep Carreras Leukaemia Research Institute, Badalona, Spain (Mar 2021)	Badalona, Spain Mar. 2021
Invited Faculty speaker at the PhD symposium “INSIDE – The Dark Side of The Cell”, Vienna Biocenter and University of Vienna	Vienna, Austria Feb. 2021
Invited speaker at the 2020 ASH (American Society of Hematology) Annual Meeting Scientific Program	San Diego, CA, USA Dec. 2020
Invited Keynote Speaker and co-chair , Young EHA Research Meeting, pre-congress of the 25th Congress of EHA (European Haematology Association)	Frankfurt, Germany Jun. 2020
Invited Faculty speaker , Cologne Spring Meeting/3rd Aging Conference "From mechanism to disease", Cologne, Germany	Cologne, Germany Mar. 2020
Invited speaker , Sy-Stem Meeting, symposium focusing on the next generation of stem cell researchers organized jointly by the Research Institute of Molecular Pathology (IMP) and Institute of Molecular Biotechnology (IMBA), Vienna	Vienna, Austria Mar. 2019
Invited speaker , DCEXS-UPF Symposium 2018, University Pompeu Fabra, Barcelona	Barcelona, Spain Nov. 2018
Invited Faculty speaker , Sixth Annual Meeting of the Society of Hematologic Oncology (SOHO 2018)	Houston, TX, USA Sep. 2018
Invited speaker , International seminar series at the Department of Microbiology and Immunology, University of Gothenburg	Göteborg, Sweden Jun. 2018
Invited speaker , Max Planck Institute for Biology of Aging – Symposium: Epigenetics and metabolism in aging and age-related diseases	Köln, Germany Sept. 2017
Oral Presentation , Selected Abstract, 4 th Annual Conference of the German Stem Cell Network (GSCN)	Hannover, Germany Sept. 2016
Invited Speaker , “Stem cells, Cancer, Immunology and Aging”. Meeting organized by Gaslini Children’s Hospital.	Genova, Italy Feb. 2015

Oral Presentation, Selected Abstract, 24th Annual Meeting of the German Society for Aging Research

Köln, Germany
Dec. 2014

Oral Presentation, Selected Abstract, 1st Annual Conference of the German Stem Cell Network (GSCN)

Berlin, Germany
Nov. 2013

Oral Presentation, Selected Abstract, 10th Annual Meeting of the International Society for Stem Cell Research (ISSCR)

Yokohama, Japan
Jun. 2012

GRANTS

Project Title	Funding source	Amount (Euros)	Period	Role of the PI
Regeneration of Sinusoidal niches to preserve hematopoiesis after chemotherapy on Ageing (ReSinAge)	ERC Consolidator Grant	1.997.000	2021-2025	Principal Investigator
Deep Learning to Dissect the Interaction between Leukemic Cells and the Ageing Niche	LaCaixa Health Research Foundation, Spain	817.045	2021-2023	Project Coordinator
Regenerating aged kidney function by targeting Cdc42 and senescent cells in human renal parietal epithelial cells (PECs)	Expression of interest proposal; Catalan Government	10.000	2020	Co-Principal Investigator
Project Ramon Y Cajal Stem Cell Aging	Spanish Ministry of Science (RYC2018-025979-I), Spain	208.600	2019-2024	Principal Investigator
Mechanics of Chromatin Architecture in Hematopoietic Stem Cell Aging	Spanish Ministry of Science (PGC2018-102049-B-I00), Spain	127.050 (including 1 PhD student)	2019-2021	Principal Investigator
Group Leader start-up package: Research group on Stem Cell Aging, Regenerative Medicine	Program for Advancing the Clinical Translation of Regenerative Medicine in Catalonia (P-CMR[C]), Government of Catalonia, Spain	~1.200.000	2018-2023	Principal Investigator
Alterations of H3K9me2 in hematopoietic stem cells: implications for aging and myeloid leukemogenesis	German Research Foundation (DFG), Germany	354.500	2017-2020	Principal Investigator
Checkpoint control in hematopoietic stem cells - contribution to genetic and epigenetic instability in leukemia	German Research Foundation (DFG), Germany	592.800	2016-2020	Co-Principal Investigator
Aging of hematopoietic stem cells and the epigenetic drift: a pathway to rejuvenation	German Research Foundation (DFG), Germany	1.203.480	2016-2018	Principal Investigator

On-going and submitted grant applications:

Project Title	Funding source	Amount (Euros)	Period	Role of the PI
Profiling and functional analysis of the immune environment of extramedullary leukemia relapses	Joint Transnational Call for Proposals 2021 (JTC 2021) co-funded by the European Commission/DG Research and Innovation	242.529	2022-2024	Principal Investigator
Rejuvenating superenhancers in aged hematopoietic stem cells by targeting Cdk8 (RejuSEageH)	Spanish Ministry of Science, Spain	453.049	2022-2025	Principal Investigator