

Michael Rera, PhD, CRCN CNRS

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Group leader  
 Centre de Recherche Interdisciplinaire  
 Université Paris Cité/INSERM U1284  
 Paris, France

#### A. Education/Training

Institution & Location	Dates Attended	Degree	Conferred	Field of Study
Université de Paris	01/06/2022	HDR	01/06/2022	Life Sciences
Université Paris-Diderot	11/2006-5/2010	PhD	05/2010	Ageing and Genetics
Université Paris-Diderot	9/2003-10/2006	Magistère	6/2006	Genetics
Université Paris-Diderot	9/2005-8/2006	Master 2	6/2006	Ageing and Genetics
Université Paris-Diderot	9/2004-6/2005	Master 1	6/2005	Genetics
Université Paris-Diderot	9/2003-6/2004	Bachelor	6/2004	Genetics
UPMC	9/2001-6/2003	Undergrad	6/2003	Biology

#### B. Research positions

June 2020 –	Group leader, Center for Research and Interdisciplinarity, Université de Paris, INSERM U1284, Paris, France
Jan. 2018 – June 2020	Group leader, Institut Biologie Paris Seine, CNRS/UMR8256 “Adaptation Biologique et Vieillessement”, Paris, France
Oct 2013-Jan 2018	CR2 CNRS, Université Paris 7, CNRS/UMR8251 “Biologie Fonctionnelle et Adaptative”, Paris, France
2010-2013	Postdoctoral Research Fellow, Department of Integrative Biology and Physiology, UCLA <b>Mentor:</b> David W. Walker <b>Project:</b> Role of intestinal stem cells mitochondria in ageing
2006-2010	PhD candidate, Department of Genetics. Institut Jacques Monod <b>Mentor:</b> Hervé Tricoire <b>Project:</b> Role of mitochondrial Electron Transfer Chain in ageing

#### C. Communications

2023	Invited talk: International Colloquium : Evolution of ageing in the Web of Life– 2nd edition
2023	Invited talk: Jacques Monod Conference “Growth and regeneration during development and aging”
2022	Two phases for studying ageing – invited talk at the BSI Immunosenescence Affinity Group, University of Sheffield
2021	Pourrait-on un jour prédire notre mort ? – <i>invited talk</i> at Centre d'éthique clinique AP-HP
2018	Enjeux éthiques et sociétaux de la prédiction de la mort– <i>invited talk</i> at Ministère de la Santé
2017	New Views on Ageing (Paris, France) – <i>invited talk</i>
2016	drosoFrance 2016 (Grâce, France) – <i>talk</i>
2015	Molecular Biology of Ageing (Groningen, NL) – <i>poster</i>
2014	24th European Drosophila Research Conference (Heidelberg, Germany) – <i>poster</i>
2013	27th Annual French Drosophila conference (Obernai, France) – <i>talk</i>

#### D. Funding

2020 – 2025	ANR JCJC ADAGIO	<b>289k€</b>
2020 – 2025	CRI Core Fellow – Fondation Bettencourt Schueller	<b>650k€</b>
2019	Actions Incitatives IBPS/Sorbonne – Université, “High throughput drug screening using drosophila – the case of VGlut3”	<b>20k€</b>
2018	Actions Incitatives IBPS/Sorbonne – Université « TE remobilization in ageing»	<b>20k€</b>
2017	ATIP/Avenir group leader	<b>180k€ + 2 years postdoc salary</b>
2017	Interdisciplinary PhD grant, Sorbonne-Université	<b>3 years PhD salary</b>

E. Publications (total = 27, citations = 2589, h-index = 15)

1. [M. Abakarova, C. Marquet, M. Rera, B. Rost, E. Laine. Alignment-based protein mutational landscape prediction: doing more with less.](#) in revision at Genome Biology and Evolution
2. [L. Freoa, LM Cheving, P. Christol, S. Méléard, M. Rera, A. Véber, JM Gibert. Drosophilid cuticle pigmentation impacts body temperature. \*Sci Rep\* \*\*13\*\*, 3513 \(2023\)](#)
3. [F. Zane, H. Bouzid, S. Besse, SS. Marmol, JL Molina, C. Cansell, F. Aprahamian, S. Durand, J. Ayache, C. Antoniewski, M. Rera<sup>1</sup>. Smurness-based two-phase model of ageing helps deconvolve the ageing transcriptional signature.](#) ahead of publication, Aging Cell
4. [RR. Martins, M. Rera, CM.Martins. Transcriptomic signatures of telomeras-dependent and independent ageing, in the zebrafish gut and brain.](#) biorxiv (2023)
5. [T. Roget, P. Jolivet, S. Méléard, M. Rera<sup>1</sup>. Positive selection of senescence through increased evolvability: ageing is not a by-product of evolution.](#) biorxiv (2022)
6. [C.Cansell, F.Bain, V.Goepp, N.Todd, V.Douard, F.Zane, C.Sanchez, N.Pietrancosta, C.Rovere, RGP Denis, S.Luquet, M.Rera<sup>1</sup>. Extending the two-phase model of ageing from Drosophila to mice helps better understand age-related and late-life metabolic decline. BMC Biology pre-registered studies](#)
7. [B.Greshake Tzovaras, M.Rera, EH Wintermute, K.Kloppenborg, J.Ferry-Danini, G.Aidelberg, R.Aronoff, A.Lindner, D.Misevic. Empowering grassroots innovation to accelerate biomedical research. PLoS Biol 19\(8\): e3001349. \(2021\)](#)
8. [M.Gaille, M.Araneda, C.Dubost, C.Guillermain, S.Kaakai, E.Ricadat, N.Todd, M.Rera<sup>1</sup>. Conséquences éthiques et sociales de biomarqueurs prédictifs de la mort chez l'homme-La vieillesse et la mort, problématiques comportementales et sociétales. Médecine/sciences, 2020](#) invited article
9. [M.Gaille<sup>1</sup>, M.Araneda, C.Dubost, C.Guillermain, S.Kaakai, E.Ricadat, N.Todd, M.Rera<sup>1</sup>. Ethical and social implications of approaching death prediction in humans-when the biology of ageing meets existential issues. BMC Medical Ethics, 2020](#)
10. [S.Méléard, M.Rera<sup>#</sup>, T.Roget. A birth–death model of ageing: from individual-based dynamics to evolutive differential inclusions. Journal of Mathematical Biology \(2019\)](#)
11. [A.Palandri, E.Martin, M.Russi, M.Rera, H.Tricoire, V.Monnier. Identification of cardioprotective drugs by medium-scale in vivo pharmacological screening on a Drosophila cardiac model of Friedreich's ataxia. Disease Models & Mechanisms 2018 11](#)
12. [R.R.Martins, A.W.McCracken, M.J.P. Simons, C.M.Henriques and M.Rera<sup>1</sup> How to Catch a Smurf? – Ageing and Beyond... In vivo Assessment of Intestinal Permeability in Multiple Model Organisms. Bio-protocol. Bio Protoc. 2018 Feb 5; 8\(3\): e2722.](#)
13. [M.Rera<sup>1</sup>, C.Vallot, C.Lefrançois: The Smurf transition: New insights on ageing from end-of-life studies in animal models. Current Opinion in Oncology 1/2018; 30\(1\):1](#) invited opinion
14. [A.Rana, M.P. Oliveira, A.V. Khamoui, R.Aparicio, M.Rera, H.B. Rossiter, D.W. Walker: Promoting Drp1-mediated mitochondrial fission in midlife prolongs healthy lifespan of Drosophila melanogaster. Nature Communications 12/2017; 8\(1\)](#)
15. [E.Dambroise, L.Monnier, L.Ruisheng, H.Aguilaniu, J-S.Joly, H.Tricoire, M.Rera<sup>1</sup>: Two phases of aging separated by the Smurf transition as a public path to death. Scientific Reports 03/2016; 6](#)
16. [H.Tricoire, M.Rera<sup>1</sup>: A New, Discontinuous 2 Phases of Aging Model: Lessons from Drosophila melanogaster. PLoS ONE 11/2015; 10\(11\)](#)
17. [A.Seguín, V.Monnier, A.Palandri, F.Bihel, M.Rera, M.Schmitt, J-M.Camadro, H.Tricoire, E.Lesuisse: A Yeast/Drosophila Screen to Identify New Compounds Overcoming Frataxin Deficiency. Oxidative medicine and cellular longevity 10/2015; 2015\(1\):1-10](#)
18. [R.I.Clark, A.Salazar, R.Yamada, S.Fitz-Gibbon, M.Morselli, J.Alcaraz, A.Rana, M.Rera, M.Pellegrini, W.W.Ja, D.W.Walker: Distinct Shifts in Microbiota Composition during Drosophila Aging Impair Intestinal Function and Drive Mortality. Cell Reports 08/2015 12\(10\):1-12,](#)
19. [M.Ulgherait, A.Rana, M.Rera, J.Graniel, D.W.Walker: AMPK Modulates Tissue and Organismal Aging in a Non-Cell-Autonomous Manner. Cell Reports 09/2014; 8\(6\)](#)
20. [J.H.Hur, S.Bahadorani, J.Graniel, C.L.Koehler, M.Ulgherait, M.Rera, D.L.Jones, D.W. Walker: Increased longevity mediated by yeast NDI1 expression in Drosophila intestinal stem and progenitor cells. Aging 09/2013; 5\(9\)](#)
21. [M.Rera, R.I.Clark, D.W. Walker: Why do old flies die? Aging 08/2013; 5\(8\)](#)

22. [A.Rana, M.Rera, D.W.Walker: \*Parkin overexpression during aging reduces proteotoxicity, alters mitochondrial dynamics, and extends lifespan\*. Proceedings of the National Academy of Sciences 05/2013; 110\(21\)](#)
23. [M.Rera\\*, M.J.Azizi\\*, D.W.Walker \*Organ-specific mediation of lifespan extension: More than a gut feeling?\* Ageing research reviews \(2012\)](#)
24. [M.Rera\\*, R.I.Clark\\*, D.W. Walker: \*Intestinal barrier dysfunction links metabolic and inflammatory markers of aging to death in Drosophila\*. Proceedings of the National Academy of Sciences \(2012\)](#)
25. [V.Monnier, M.Iché-Torres, M.Rera, V.Contremoulins, C.Guichard, N.Lalévée, H.Tricoire, L.Perrin: \*dJun and Vri/dNFIL3 Are Major Regulators of Cardiac Aging in Drosophila\*. November 2012 PLoS Genetics 8\(11\):e1003081](#)
26. [M.Rera\\*, S.Bahadorani\\*, J.Cho\\*, C.L.Koehler, M.Ulgherait, J.H.Hur, W.S.Ansari, T.Lo, D.L.Jones, D.W.Walker. \*Modulation of Longevity and Tissue Homeostasis by the Drosophila PGC-1 Homolog\*. November 2011 Cell metabolism 14\(5\):623-34](#)
27. [M.Rera, V.Monnier, H.Tricoire. \*Mitochondrial electron transport chain dysfunction during development does not extend lifespan in Drosophila melanogaster\*. February 2010 Mechanisms of ageing and development 131\(2\):156-64](#)  
 # authors in alphabetical order \* equal contribution <sup>1</sup> corresponding/senior author

#### F. Teaching activities

- 2020 - Teaching for bachelor and masters “Frontières du Vivant”, UPC
- 2020 - Conception and teaching of the Open Science course for Master 2 “Frontières du Vivant”
- 2013 - Master 2 research seminar for the masters Biology of Ageing and Longevity / Magistère de Génétique, specialization Ageing.

#### G. Supervision of students

- Oct. 2022 – Co-supervision (as principal supervisor) of PhD candidate Marina Abakarova with Dr. Elodie Laine (MCF Sorbonne Université)
- Jan. 2022 – Co-supervision (as principal supervisor) of PhD candidate Hayet Bouzid with Dr. Clément Carré (MCF Sorbonne Université)
- Oct.2018 – June 2022 Supervision of PhD candidate Flaminia Zane
- Sep.2015 – Nov.2018 Co-supervision of a PhD student, Tristan Roget, with Pr. Sylvie Méléard
- Sep.2016 – Jan.2017 Supervision of bachelor student. Isabel Berastain, Université de Barcelone.
- 2011 – 2013 Co-supervision of a PhD student, Matthew Ulgherait
- 2010 – 2012 Supervision of three undergraduate students for 3 months to one year

#### H. Institutional responsibilities

- 2021 – Scientific expert for the Chaire de Mathématiques Appliquées de l’Ecole Polytechnique
- 2019 – Member of the scientific council for the Plateforme Nationale pour la Recherche sur la fin de vie
- 2018 – 2020 Graduate Student tutor of Margaret Ahmad’s PhD student
- 2015 – 2018 Graduate Student Advisor (comité de thèse) (Marie Durollet), Université de La Rochelle

#### I. Organization of scientific meetings

- Oct. 2020 Junior European Drosophila Investigators (JEDI) 10<sup>th</sup> anniversary meeting
- Nov. 2017 “31<sup>st</sup> French Drosophila Meeting” Giens. Approx. 90 participants
- June 2016 “DIF day”. Institut Curie, Paris. Approx. 70 participants

#### J. Peer reviewing / Editorial activities

- Extensive reviewing activity peer reviewed journals (eLife, Current Aging Research, Nature Communications...)
- Reviewing for grants Labex, NSERC Discovery Grants Program, ANR, FRC, Dunhill Medical Trust, INCa,
- Guest Editor for Frontiers in Genetics, [special issue on ageing](#)