

Michael Rera, PhD, CRCN CNRS
Date of birth: 11/03/1983

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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

Jan. 2024 –	Group leader hosted in Virginie Courtier's team at Institut Jacques Monod, Paris
June 2020 – Dec. 2023	Group leader, Center for Research and Interdisciplinarity, U1284, Paris, France
Jan. 2018 – June 2020	Group leader, Institut Biologie Paris Seine, CNRS/UMR8256, Paris, France
Oct. 2013 – Jan. 2018	CR2 CNRS, Université Paris 7, CNRS/UMR8251 "Biologie Fonctionnelle et Adaptative"
2010-2013	Postdoctoral Research Fellow, Department of Integrative Biology and Physiology, UCLA
2006-2010	PhD candidate, Department of Genetics. Institut Jacques Monod

C. Communications

2024	<i>Short talk:</i> EMBO Workshop, Nice
2023	<i>Workshop talk:</i> European Drosophila Research Conference
2023	<i>Invited talk:</i> International Colloquium - Evolution of ageing in the Web of Life– 2nd edition
2023	<i>Invited talk:</i> Jacques Monod Conference "Growth & regeneration during development and aging"
2022	<i>Invited talk:</i> Two phases for studying ageing, BSI Immunosenescence Affinity Group, Uni. Sheffield
2021	<i>Invited talk:</i> Pourrait-on un jour prédire notre mort ?, Centre d'éthique clinique AP-HP
2018	<i>Invited talk:</i> Enjeux éthiques et sociétaux de la prédiction de la mort, Ministère de la Santé
2017	<i>Invited talk:</i> New Views on Ageing (Paris, France)
2016	<i>Talk:</i> drosoFrance 2016 (Grâce, France)
2015	<i>Poster:</i> Molecular Biology of Ageing (Groningen, NL)
2014	<i>Poster:</i> 24th European Drosophila Research Conference (Heidelberg, Germany)
2013	<i>Talk:</i> 27th Annual French Drosophila conference (Obernai, France)

D. Funding

2025 – 2027	FRM SPF	3 years postdoc salary
2024	Emergences UPC	39k€
2020 – 2025	ANR JCJC ADAGIO	289k€
2020 – 2025	CRI Core Fellow – Fondation Bettencourt Schueller	650k€
2019	Actions Incitatives IBPS/Sorbonne – Université, "High throughput drug screening in <i>Dmel</i> "	20k€
2018	Actions Incitatives IBPS/Sorbonne – Université « TE remobilization in ageing»	20k€
2017	ATIP/Avenir group leader	180k€ + 2 years postdoc salary
2017	Interdisciplinary PhD grant, Sorbonne-Université	3 years PhD salary

E. Publications (total = 29, citations = 3019, h-index = 16)

1. [F. Zane, C. Macmurray, C. Guillermain, C. Cansell, N. Todd, **M Rera**. Ageing as a Two-Phase Process: Development of a new Theoretical Framework. Frontiers in Aging \(2024\) *invited theory article*](#)
2. [T. Roget, C. Macmurray, P. Jolivet, S. Méléard, **M. Rera**¹. A scenario for an evolutionary selection of ageing. eLife \(2024\)](#)
3. [M. Abakarova, C. Marquet, **M. Rera**, B. Rost, E. Laine. Alignment-based protein mutational landscape prediction: doing more with less. Genome Biol Evol \(2023\)](#)
4. [L. Freoa, LM Cheving, P. Christol, S. Méléard, **M. Rera**, A. Véber, JM Gibert. Drosophilid cuticle pigmentation impacts body temperature. Sci Rep **13**, 3513 \(2023\)](#)
5. [F. Zane, H. Bouzid, S. Besse, SS. Marmol, JL Molina, C. Cansell, F. Aprahamian, S. Durand, J. Ayache, C. Antoniewski, **M. Rera**¹. Smurness-based two-phase model of ageing helps deconvolve the ageing transcriptional signature. Aging Cell \(2023\) *featured cover*](#)
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**¹. 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 \(2023\)](#)
7. [AM. Salazar, R. Aparicio, RI. Clark, **M. Rera**, DW. Walker. Intestinal barrier dysfunction: an evolutionarily conserved hallmark of aging. Drosophila as a Disease Model \(2023\)](#)
8. [RR. Martins, **M. Rera**, CM.Martins. Transcriptomic signatures of telomerase-dependent and independent ageing, in the zebrafish gut and brain. biorxiv \(2023\)](#)
9. [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 \(2021\)](#)
10. [M.Gaille, M.Araneda, C.Dubost, C.Guillermain, S.Kaakai, E.Ricadat, N.Todd, **M.Rera**¹. 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*](#)
11. [M.Gaille¹, M.Araneda, C.Dubost, C.Guillermain, S.Kaakai, E.Ricadat, N.Todd, **M.Rera**¹. Ethical and social implications of approaching death prediction in humans-when the biology of ageing meets existential issues. BMC Medical Ethics, 2020](#)
12. [S.Méléard, **M.Rera**[#], T.Roget. A birth–death model of ageing: from individual-based dynamics to evolutive differential inclusions. Journal of Mathematical Biology \(2019\)](#)
13. [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](#)
14. [R.R.Martins, A.W.McCracken, M.J.P. Simons, C.M.Henriques and **M.Rera**¹ 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.](#)
15. [M.Rera¹, 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*](#)
16. [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\(1\)](#)
17. [E.Dambroise, L.Monnier, L.Ruisheng, H.Aguilaniu, J-S.Joly, H.Tricoire, **M.Rera**¹: Two phases of aging separated by the Smurf transition as a public path to death. Scientific Reports 03/2016; 6](#)
18. [H.Tricoire, **M.Rera**¹: A New, Discontinuous 2 Phases of Aging Model: Lessons from Drosophila melanogaster. PLoS ONE 11/2015; 10\(11\)](#)
19. [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](#)
20. [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,](#)

21. [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)
 22. [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)
 23. [M.Rera, R.I.Clark, D.W. Walker: Why do old flies die?](#) Aging 08/2013; 5(8)
 24. [A.Rana, M.Rera, D.W.Walker: Parkin overexpression during aging reduces proteotoxicity, alters mitochondrial dynamics, and extends lifespan.](#) PNAS (2013)
 25. [M.Rera*, M.J.Azizi*, D.W.Walker Organ-specific mediation of lifespan extension: More than a gut feeling?](#) Ageing research reviews (2012)
 26. [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)
 27. [V.Monnier, M.Iché-Torres, M.Rera, V.Contremoulins, C.Guichard, N.Lalevée, H.Tricoire, L.Perrin: dJun and Vri/dNFIL3 Are Major Regulators of Cardiac Aging in Drosophila.](#) November 2012 PLoS Genetics 8(11):e1003081
 28. [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
 29. [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 ¹ corresponding/senior author

F. Teaching activities

- 2020 - 2023 Teaching for bachelor and masters “Frontières du Vivant”, UPC
 2020 - 2023 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

- Sept. 2024 – Co-supervision of PhD candidate Luce Breuil with Dr. Marie Doumic (DR INRIA) and Dr. Sarah Kaakai (MCF)
 Oct. 2022 – Co-supervision (as principal supervisor) of PhD candidate Marina Abakarova with Dr. Elodie Laine (MCF Sorbonne Université)
 Jan. 2022 – Oct. 2024 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

- 2023 Thesis rapporteur for Tom Bonnifet, Collège de France (director Dr Julia Fuchs)
 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) 10th anniversary meeting
 Nov. 2017 “31st 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](#)