

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 housed in Virginie Courtier's team at Institut Jacques Monod, Paris
June 2020 – Dec. 2023	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 Vieillesse", 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
2006-2010	PhD candidate, Department of Genetics. Institut Jacques Monod

C. Communications

2023	Workshop talk: European Drosophila Research Conference
2023	Invited talk: International Colloquium - Evolution of ageing in the Web of Life– 2nd edition
2023	Invited talk: Jacques Monod Conference "Growth & 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	289k€
2020 – 2025	CRI Core Fellow – Fondation Bettencourt Schueller	650k€
2019	Actions Incitatives IBPS/Sorbonne – Université, "High throughput drug screening using drosophila – the case of VGlut3"	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 = 2734, h-index = 15)

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. invited theory article at Frontiers in Aging \(2024\)](#)
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 aqinq 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 Aqinq 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

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| 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

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| 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

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| 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

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| Oct. 2020 | Junior European Drosophila Investigators (JEDI) 10 th anniversary meeting |
| Nov. 2017 | "31 st 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](#)