

Curriculum Vitae

JESSUS Catherine

Directrice de Recherches Classe Exceptionnelle - CNRS

"Developmental Biology" Laboratory - UMR7622 - Institut de Biologie Paris-Seine

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Education

1983 PhD - University P. & M. Curie
1982 Agrégation in Life and Earth Sciences (highest national teaching degree)
1981 DEA "Physiology of Reproduction" - P. & M. Curie University, Paris
1979-1980 Master in Animal Physiology - P. & M. Curie University, Paris
1978-1979 Master in Life Sciences - P. & M. Curie University, Paris
1978-1982 École Normale Supérieure Paris

Fellowships & Tenures

1995-present Tenured CNRS Research Scientist - Grade Directrice de Recherches
1986-1995 Tenured CNRS Research Scientist - Grade Chargée de Recherches
1984-1986 Assistant-Normalien at University P. & M. Curie
1982-1983 PhD Fellowship - Ministry of Higher Education, Research and Innovation
1978-1982: Pupil at École Normale Supérieure Paris

Research & Professional Experience

2019-2021 Head of the *i-Bio* Initiative - IdEx Alliance Sorbonne University
2013-2019 Director of the Institute of Biological Sciences (INSB) of CNRS
2010-2013 Coordinator of the project to establish the Biology Paris-Seine Institute (IBPS), CNRS - University P. & M. Curie

2004-2013 Head of the Laboratory "Developmental Biology" UMR7622, CNRS - University P. and M. Curie

1992-present Group leader, Laboratory "Physiology of Reproduction" UMR7080, then Laboratory "Developmental Biology" UMR7622, CNRS - University P. & M. Curie, France

1989-1992 Visiting Scientist, Howard Hughes Medical Institute, Cold Spring Harbor Laboratory, USA
1988 Post-doctoral Fellow, Katholieke University of Leuven, Belgium
1979-1987 PhD Thesis, Laboratory "Physiology of Reproduction" CNRS - University P. & M. Curie, France

Distinctions & Awards

2016 Chevalier de la Légion d'Honneur
2000 Prize "Jeanne Courrier" - National Academy of Sciences

Team Leader (1992-present)

PI of the group "Biology of the Oocyte" (present: staff of 11 people)

Supervision of 14 PhD Thesis of University P. & M. Curie and now Sorbonne University

Fundings-Contracts, as leader: ANR, ARC, Ligue contre le Cancer (Labelisation 2003-2007), University P. & M. Curie and CNRS programs, ACI, NATO

Organization of 5 international conferences

Invitations as speaker: about once a year at a Meeting, once/twice a year at Institutes

Advisory Boards & Scientific Committees

2022-present Member of the Scientific Council of the "Jeunes francophones et la science" Association
2021-present Member of the CID 50 of the National Committee of the CNRS
2021-present Member of the Scientific Council of the Institut Pascal (Paris-Saclay University)

2020-present	Member of the “Haut Conseil des Infrastructures de recherches” (HC-IR), French Ministry of Higher Education and Research
2013-2019	Vice-President of the Alliance Aviesan
2013-2019	Member of the Board of Trustees of Inserm
2013-2019	Member of the Board of Trustees of the Curie Institute
2012-2013	Member of the Board of Trustees of the DIM "Biotherapies" of the Région Ile-de-France
2012-2013	Member of the Board of Trustees, Oceanographic Observatory of Villefranche/Mer
2009-2013	Member of the ITMO "Cellular and Developmental Biology, Evolution", Aviesan
2008-2013	Member of the Higher Council of Research and Technology (CSRT), Ministry of Higher Education, Research and Innovation
2008-2011	Member of the ANR National Committee, "Developmental and Cell Biology" section
2008-2010	Coordinator of "Life & Health" section, Adviser to the Vice-President of Research, University P. & M. Curie
2008-2012	President of Section 26 of the National Committee of the CNRS
2006-2013	Member of the Research Council of P. & M. Curie University
2006-2010	Member of the Scientific Council of Life Sciences Department at CNRS
2005-2008	Member of the Scientific Council of the PNRPE (Endocrine Disruptors Program), Ministry of Ecological and Solidarity Transition
2004-2008	Member of Section 26 of the National Committee of the CNRS
2004-2013	Member of the Selection Committee at INRA - recruitment-promotion of DR2-DR1
2004-2013	Member of the Scientific Council of the Life Sciences Department, University P. & M. Curie
2001-present	Member of the Council of the UNESCO Center in Fundamental Sciences, Vilnius University, Lithuania
1999-2004	President of the Scientific Strategy Committee of the IFR-Integrative Biology
1998-2013	Member of Selection Committees (recruitment of Professors) at P. & M. Curie University
1997-2002	Vice-president of the National Committee #4 of ARC (Association pour la Recherche contre le Cancer)

Ad-hoc Expertise – Editorial activities

Reviewer for journals eg Nature, EMBO J, EMBO Rep, Current Biol, Development, Dev Biol, Oncogene, BMC Dev Biol, Cell Cycle, J Cell Sci and others

Member of the Editorial board of “Cells” and “Cell Division”

Member of the Editorial board of the journal “Histoire de la recherche contemporaine”, CNRS Éditions

Director of the book collection “Étonnant Vivant”, CNRS Éditions

Expert for international and national funding bodies including: ARC (Association pour la Recherche contre le Cancer, France), AFM (Association Française contre les Myopathies, France), Ligue contre le Cancer (France), FRM (Fondation pour la Recherche Médicale, France), Conseils Régionaux (France), ANR (Agence Nationale de la Recherche, France), Wellcome Trust (UK), Royal Academy of Sciences (Belgium), IRCC (Italy), NATO (Brussels), Israel Science Foundation (Israel) and others

Scientific expert or president of 7 evaluation committees AERES/HCERES

Public Science Activities (conferences, TV, radios, exhibitions, articles)

The results of basic research in life sciences – Promoting the CNRS collective book "Étonnant Vivant"

- Paris, National Assembly, 2016. Launching the book « Étonnant Vivant » with members of parliament, the Minister of Research, heads of organizations (CNRS, Inserm, INRA, CEA, etc.) and scientists
- 12 conferences in Museums, bookstores, Scientific Academies, universities, etc. for a lay public, politicians, students, scientists (Paris, Lille, Gif/Yvette, Montpellier, Rennes, Boulogne-Billancourt, Toulouse, Lyon)
- 2 radio broadcasts
- 2 TV programs
- Exhibition with RATP, 2018: Fresco "Étonnant Vivant", Montparnasse station

- Book Fairs (Nancy, Mouans-Sartoux)

The Year of Biology, 2021-2022

- Paris, Inaugural day of the Year of Biology, Sorbonne University, 2021. "Major advances and challenges for biology in the 21st century". In the presence of the French Minister of Education and the Minister of Higher Education, Research and Innovation
- 9 conferences for teachers and students (Marseille, Créteil, Versailles, Strasbourg, Toulouse, Grenoble)
- Vidéo : <https://www.youtube.com/watch?v=AhVv4dXkz1Y&t=605s>

Vulgarisation: advances and challenges of 21st-century biology

- Toulouse, inauguration of the Center of Integrative Biology (CBI), 2022
- Paris, Celebrating 40 years of the Institute Jacques Monod, 2022
- Meudon, University Auguste Rodin – City Hall of Meudon, 2022

Promoting women in science

- Activities in secondary schools.
- Tours, Centre INRAe of Nouzilly. 2023. Conference on the occasion of UNESCO's International Day of Women and Girls in Science and International Women's Rights Day

Discovering a brilliant scientist, Édouard Chatton, and protists

- 7 conferences (Paris, Strasbourg, Blois, Banyuls-sur-Mer, Toulouse, Meudon)
- 3 radio broadcasts
- Book Fair of Mouans-Sartoux
- Article in «*Pour la Science*» en 2022 (N°532. p. 74)

Discovering the founder of the Roscoff and Banyuls marine stations, Henri de Lacaze-Duthiers

- 4 conferences (Banyuls-sur-Mer, Paris, Roscoff)

Teaching Activities

2001-2008	Doctoral School "Logique du Vivant" - Member of the admission panel and of the Executive Board, University P. & M. Curie
1995-2003	Member of the Biology selection panel, École Normale Supérieure Paris
1994-2009	DEA "Physiology of Reproduction" University P. & M. Curie - DEA "Cellular and Molecular Physiopathology", University P. & M. Curie - DEA "Cellular and Molecular Biology of Development", University P. & M. Curie - DEA "Biology of Ageing", University René Descartes - Master 2 "Cell Biology and Development", University P. & M. Curie - Master 2 "Biology, Physiology and Pathology of Reproduction", University René Descartes
1993-2006	Training for "Agrégation in Life and Earth Sciences", École Normale Supérieure Paris
1991-present	Member of about 60 Thesis and HDR juries

Research Topics

Author of over 80 publications, my research activities concern the formation of female gametes (oocytes) and have contributed to a better understanding of the cellular and molecular mechanisms that underlie meiotic divisions, the final step of oogenesis that produces a fertilizable egg. I identified new signaling pathways that trigger entry of the oocyte into the cell cycle. Besides the importance of this process for sexual reproduction and embryonic development, my studies contributed to bring new insights in the biochemistry of cell division, the non-genomic effects of steroid hormones, the plasticity of cell responses and the robustness of a mechanism such as meiosis against constraints. This knowledge is also a mandatory step to understand the cancer disorders generated by M-phase missregulations or the origins of human infertility, especially the etiology of age-related aneuploidy.

Research Interest key words

Cell Division, Cell Cycle, Gametogenesis, Meiosis, Signal Transduction, Early Development, Cell Biology

Publications:

78 peer-reviewed research articles - 6 peer-reviewed book chapters – 10 publications for the general public

Editor of the Special Issue of "Cells": Oocyte Growth and Development (2019)

Coordinator of the book "Étonnant Vivant : découvertes et promesses du XXI^e siècle", CNRS Editions (2017)

Co-author with V. Laudet of the book "Les vies minuscules d'Édouard Chatton", CNRS Editions (2020)

5 selected scientific publications

- Lemonnier T, Daldello EM, Poulhe R, Le T, Miot M, Jesus C, Dupré A. (2021). The M-phase regulatory phosphatase PP2A-B55 δ opposes protein kinase A on Arpp19 to initiate meiotic division. *Nature Commun.* 12:1837.
- Jesus C, Munro C, Houlston E. (2020). Managing the oocyte meiotic arrest-Lessons from frogs and jellyfish. *Cells*, 9:1150.
- Dupré A, Daldello EM, Nairn AC, Jesus C, Haccard O. (2014). Phosphorylation of ARPP19 by protein kinase A prevents meiosis resumption in *Xenopus* oocytes. *Nature Commun.* 5:3318.
- Haccard O, Jesus C. (2006). Redundant pathways for Cdc2 activation in *Xenopus* oocyte: either cyclin B or Mos synthesis. *EMBO Rep.*, 7:321.
- Dupré A, Jesus C, Ozon R, Haccard O. (2002). The unique role of the c-Mos proto-oncogene in female meiosis revealed by morpholino antisense strategy in *Xenopus*. *EMBO J.*, 21:4026.

5 selected books or book chapters for general public

- Jesus C. and Toulmond, A. (2022). "Chronique d'une campagne d'été réalisée au laboratoire de zoologie expérimentale de Roscoff." *Histoire de la recherche contemporaine*, tome XI, n°1. CNRS Éditions, Paris.
- Jesus C. and Wollman, F.A. (2021). "Covid19 – L'opportunité de repenser la politique de la recherche ?". Chapitre du livre collectif "Sorbonnavirus : regards sur la crise du coronavirus". Sorbonne Université Presses (SUP), Paris.
- Jesus C. and Laudet, V. (2020). "Les vies minuscules d'Édouard Chatton". CNRS Éditions, Paris.
- Jesus C. (2019). "Qu'est-ce que la vie ?". Chapitre du livre collectif "Sciences - bâtir de nouveaux mondes". p39-48. CNRS Éditions, Paris.
- Jesus C. (2017). "Étonnant Vivant - Découvertes et promesses du XXI^e siècle". CNRS Éditions, Paris.