

Christian Néri, Ph.D.

Research Director at INSERM ; Associate Professor at University of Montreal

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EDUCATION

- 1997 HDR** (Thesis for supervising research), University Pierre & Marie Curie, France. 'Functional genomics and human health'.
- 1990 Ph.D. in Genetics and Microbiology**, University Aix-Marseille II, France. 'Direct antiproliferative effects of GnRH analogs in breast cancer'.
- 1986 BS in Immunology and BS in Genetics**, University Aix-Marseille II, Marseille, France.

POSTGRADUATE TRAINING

- 92/93 Postdoctoral Research Fellow**, Genome Analysis Laboratory (Pr. Hans Lehrach), ICRF, London UK. *Human genome analysis and inherited neurodegenerative diseases*.
- 90/92 Postdoctoral Research Fellow**, Cancer Research Center (Pr. Marc Lippman), Georgetown Univ. Medical Center, Washington DC, USA. *Adenocarcinomas and erbB receptor targets*.

ACADEMIC APPOINTMENTS

04-present Research Director at INSERM

2013-present: Director, **Brain-C Lab** 'Dynamics of Brain-Compensation mechanisms in neurodegenerative diseases', IBPS, CNRS UMR 8652, Paris, France.
<http://www.ibps.upmc.fr/en/research/biological-adaptation-and-ageing/brainc>

2004-2012: Director, **INSERM Unit 857** 'Neuronal Biology and Pathology', transformed into Team of Center for Psychiatry and Neurosciences INSERM U894, Paris, France.

- 2003 Group leader, INSERM Avenir Award**, Genomic Biology. IFR 77, Sainte-Anne Hospital, Paris, France.
Pathogenesis and therapy of neurodegenerative diseases.
- 98/03 Group leader** Genomic Biology, CEPH (Human Polymorphism Study Center), Paris, France.
Pathogenesis and therapy of neurodegenerative and neuropsychiatric disorders.
- 96/98 Group leader**, CNS disorders — CEPH, Paris, France.
Pathogenesis of CNS disorders associated to polyglutamine expansion.
- 93/96 Staff scientist and project leader** — CEPH, Paris, France.
CAG repeats and neurological diseases.

SERVICES

Current:

President, French Society of Extracellular Vesicles (FSEV). <https://www.fsev.fr/>

Chair, Special Interest Group 'Extracellular Vesicles in the Nervous System (EVINS)', International Society for Extracellular Vesicles (2023-).

Chair, Working Group 'Systems modeling', European Huntington's Disease Network (2008-) <http://www.ehdn.org/systemsmodelling-wg/>

Coordinator, Preclinical research programs with CNRS Innovation, SU and SATT Lutech (2022-).

Coordinator, BrainLife-AD consortium initiative (APHP, Universities in Paris, CNRS) and project AD-Resilience: bio-clinical research for precision medicine in Alzheimer disease (2019-).

Scientific Board member, Réseau Huntington Langue Française (RHLF), France.

Member, Scientific Council, Paris Région Gerontopole (2017-). Research on healthy aging.

Member, SAB, Museum National d'Histoire Naturelle, UMR 7221 (2021-).

Section Editor-in-chief, *Cells* - **Associate Editor**, *Frontiers in Aging Neurosciences*.

Expert-reviewer for ERC, Horizon Europe, EFTA Surveillance Authority, Brain Canada, FRQ, Muscular Dystrophy Association (Canada), FNRS (Belgium), German Ministry of Education and Research, Caixa Fund (Spain), Telethon-Italy, Princess Beatrix Fund, UEFISCDI (Romania), National Science Center (Poland) and for ANR, AFM, MESRI/DGRI, Regions and other French agencies and funding organizations.

Past:

Vice-President, French Society of Extracellular Vesicles FSEV (2021-2023).

Chair (2012-2018) and **Member (2019-2023)**, **Scientific Council**, Association Huntington France (AHF). AHF funds Ph.D. fellowships for research on HD.

Scientific director, AP-HP University Hospital Dpt. (DHU) 'Fight Aging&Stress' (2013-2018).

Member, Executive Committee, Euro-HD Network (2010-2014).

Coordinator, Inserm's International Associated Laboratory 'Neuronal longevity' with the Buck Institute and University of Montreal (2013-2016)

Steering Committee member, Bioinformatics Platform, University Paris Descartes (2007-2012).

Coordinator, Biomathematics Working Group, University Paris Descartes (2004-2010). Development of systems biology.

Editor-in-Chief, *Current Genomics* (2000-2023).

TEACHING

Teaching on a regular basis (6-8 hours/year) at Universities in the Région Ile-de-France: new models for research in neurosciences (*C. elegans*, Systems biology) at the M1 and M2 levels.

TRAINING/SUPERVISION

PhD (N = 8) awarded in:

2016: Jessica Voisin, Ecole doctorale ED3C, UPMC, *moved to bioinformatics in the private sector*.

2015: Frédéric Parmentier, Ingénieur Supélec, Ecole doctorale Fontières du Vivant, Université Paris Descartes, Bourse CIFRE with GSK, *currently Director Data Analytics at Ariana Pharma*.

2009: Matthieu Pasco, Ecole doctorale ED3C, *researcher at Sophia Agrobiotech*.

2008: Cendrine Tourette, Ecole doctorale ED3C, *currently Global Project Manager at Biophytis, Paris after a postdoc in the Hugues group at the Buck Institute, USA*.

2007: Hélène Catoire, Ingénieur UTC, Ecole doctorale ED3C, *currently Science Project Manager at McGill University after a postdoc in the Rouleau group at Université de Montréal*.

2006: Margarita Arango, Ecole doctorale ED3C, *researcher at IGF, Montpellier*.

2005: Céline Lefebvre, Ecole doctorale ED3C, Bourse CIFRE with Gene-IT, *Currently Director of*

Computational Biology at Servier, after a position as a Team leader at IGR/Inserm U981, Villejuif, and a Post-doc in the Califano group at Columbia University, NY.

2004: Sébastien Holbert, UPMC & EPHE, currently CR1 INRA after a postdoc in the Rouleau group at Université de Montréal.

BS (N = 12), M1 or M2 awarded in:

- 2022:** Alexandre Gomes, M1 Biologie Intégrative et Physiologie, Sorbonne Université.
2021: Marie Le Henaff, M2 Telecom Physique Strasbourg, Université de Strasbourg.
2021: Maxime Guedre, M1 Biologie Intégrative et Physiologie, Sorbonne Université.
2015: Raphael Munoz-Ruiz, M1 Integrative Biology, UPMC.
2014: Marie Jasmin: M2 BBCP/Aging, University Paris Descartes.
2014: Emmanuelle Bosher: M1 Sciences, Technology and Health, University Paris Descartes.
2014: Gabriel Le Berre, Final Year Agro-ParisTech, track Molecular & cellular Bioengineering.
2012: Jessica Voisin, M2 Integrative Biology & Physiology (BIP), UPMC .
2011: Thomas Roux, M1 Public Health, University Paris Descartes.
2010: Sonia Hernandez, M2 Integrative Biology & Physiology (BIP), UPMC.
2005: Edouard Henrion, M2 Bioinformatics&Genomics, Université Versailles-St Quentin-en-Yvelines.
2004: Thibault Andrieu, M2 Biology of Aging, Université de Versailles St Quentin-en-Yvelines.

CONFERENCE ORGANIZATION (2006-)

Chair, 1st Conference on 'Extracellular Vesicles in Nervous Systems', International Society for Extracellular Vesicles (ISEV), December **2023**, Rome, Italy.

Chair, Satellite meeting 'Extracellular Vesicles in the Nervous System', International Society for Extracellular Vesicles (ISEV) Annual Meeting, May **2023**, Seattle, USA.

Chair, Session "Preventing future pandemics", International Conference on Systems Biology (ICSB), October **2022**, Berlin, Germany.

Chair, Session 'EVs in Aging-Nervous system', Keystone Symposium "Exosomes, Microvesicles and other Extracellular Vesicles", November **2022**, Santa Fe, USA.

Organizing Committee member of the bi-annual FSEV meeting, October **2022**, Paris.

Chair, Session 'Neuronal biomarkers', International Society for Extracellular Vesicles (ISEV) Annual Meeting. May **2022**. Lyon, France.

<https://www.eventscribe.net/2022/ISEV2022/index.asp?launcher=1>

Chair, EMBO workshop 'Network Inference in Biology and Disease', September **2019**, Naples, Italy. See <https://meetings.embo.org/event/19-network-inference>.

Chair, Symposium 'exocytosis and extracellular vesicle signaling in brain development, maintenance and diseases', Neurofrance 2019 (Annual meeting of the French Society for Neurosciences), May **2019**, Marseille, France.

Program Committee member of the 2019 Gordon Research Conference (GRC) on Triplet Repeat Diseases, June **2019**, Il Ciocco, Italy.

Session chair 'Mechanisms of toxicity of neurodegeneration-linked proteins', EMBO Workshop 'Regulation of aging and proteostasis', February 2015, Jerusalem, Israel.

Member, Organizing Committee, 8th Plenary Meeting of the European HD Network, September 2014, Barcelona, Spain.

Chair, Mini-symposium 'How do Cellular-Stress Response Pathways Control Brain Resistance during Aging and Neurodegenerative Disease?', Annual meeting of the Society for Neuroscience, November **2013**, San Diego, USA. See <http://www.sfn.org/annual-meeting/neuroscience-2013>.

Chair, Organizing Committee, 7th Plenary Meeting of the European HD Network, September **2012**, Stockholm, Sweden. See <http://www.euro-hd.net/html/ehdn2012/committees>.

Co-Chair, 6th Plenary Meeting of the European HD Network, September **2010**, Prague.

Chair, international conference series 'Brain diseases & Molecular Machines', Paris May **2008** and Tokyo May **2013**. See <http://www.broca.inserm.fr/BDMM/>.

Chair, Symposium on 'Application of genomics and data integration to drug and marker discovery for brain disorders', ECNP 2010. September **2010**, Amsterdam, The Netherlands.

Co-organizer of a mini-symposium at 8th workshop, Société des Neurosciences, Mai **2007**, Montpellier, France. See [SFN website](#).

Organizer, Annual conference on systems biology, the University Paris Descartes in **2006, 2007 and 2008**. See <http://www.math-info.univ-paris5.fr/BioSys/>

RECENTLY-INVITED TALKS AT INTERNATIONAL CONFERENCES (2009-)

Neri C. Extracellular vesicles and aging. **International Society for Extracellular Vesicles (ISEV) Annual Meeting**. Seattle, May 2023, USA.

Neri C. The Biogemix platform for precision-machine-learning and drug discovery in neurodegenerative diseases. **INSERM-JSPS Workshop**, AI and big data approaches in precision medicine and health science. Yamaguchi University, December 2022, Japan.

Neri C. Systems Modeling for HD research. **Euro-HD 2022**, September 2022, Bologna, Italy.

Neri C. Integration of network layers for modelling the temporal dynamics of genetic cooperativity in Huntington's disease. **EMBO workshop** 'Network Inference in Biology and Disease', September 2019, Naples, Italy.

Neri C. BioGemix: a multi-layer machine learning framework for biological precision in R&D on age-related diseases. **Pharmaceutical R&D Informatics Summit**, September 2019, Berlin, Germany.

Neri C. Systems modelling and biological evidence for alteration of small extracellular vesicles in Huntington's disease. 2017 meeting of the **French Society for Extracellular Vesicles (FSEV)** November 2017, Paris, France.

Neri C. Weighted network models of the temporal dynamics and biological outcome of Huntington's disease in the striatum of Huntington's disease knock-in mice. **Gordon Research Conference (GRC)** on CAG triplet repeat disorders. June 2017, Mount Snow, USA.

Neri C. Dynamics of biological systems and compensation in Huntington's disease. **CHDI's 12th Annual HD Therapeutics Conference**, April 2017, Malta. This talk is broadcasted at

Neri C. Regulation of stress response networks and mechanisms in neuro-degenerative diseases: insights from the study of Huntington's disease. **American-French Workshop on Ageing and Disease**, University of Southern California, October 2016, Los Angeles, USA.

Neri C. Dynamics and impact of molecular reprogramming in Huntington's disease. **Bi-annual meeting of the Hereditary Disease Foundation**, August 2016, Boston, USA.

Neri C. Early mechanism shaping deficiency of neuronal stress resistance in Huntington's disease. **EMBO Workshop**, Regulation of Aging and Proteostasis, February 2015, Jerusalem, Israel.

Neri C. Role of Systems Biology and Utility of Big Data in HD Research (Keynote lecture). **Euro-HD 2014**, September 2014, Barcelona, Spain.

Neri C. Early-stage stress response deficiency in Huntington's disease. **Bi-annual meeting of the Hereditary Disease Foundation**, August 2014, Boston, USA.

Neri C. Dissecting early-stage neuron survival deficiency in Huntington's disease. **Annual meeting Neuroscience 2013 (Society for Neuroscience)**, November 2013, San Diego, USA.

Neri C. Showcasing the capability of the Biogemix platform for cross-species gene prioritization in Huntington's disease. **Gordon Research Conference (GRC)** on CAG triplet repeat disorders. June 2013, Waterville, USA.

Neri C. Regulation of neuron survival during the early phases of neurodegenerative disease by FOXO factors: new insights from studies in *C. elegans*. **EMBO Conference** on *C. elegans* neurobiology. June 2012, Heidelberg, Germany.

Neri C. SIRT1, FOXO and their Roles in Longevity and Neurodegenerative Disease. **Keystone**

symposium on Sirtuins in Aging and Disease. metabolism Research Conference (GRC) on CAG triplet repeat disorders. February 2012, Tahoe city, USA.

Neri C. Development, longevity and Huntington's disease. **26th IPSEN International Conference on 'Protein Quality Control in Neurodegenerative Disease'**, May 2011, Paris, France.

Neri C. Search for genetic modifiers in HD: exploring the Foxo network. **Euro-HD 2010**, September 2010, Prague, République Tchèque.

Neri C. Network-based data integration for modifier gene and drug target discovery in disease and psychiatric disorders, **ECNP 2010**, September 2010, Amsterdam, Hollande.

Neri C. Evidence for β -catenin to modify the age at onset of Huntington's disease. **Bi-annual meeting of the Hereditary Disease Foundation**, August 2010, Boston, USA.

Neri C. A unified rationale for neuroprotective intervention based on the interplay between neurodevelopmental genes and the FoxO longevity pathway. **2009 European Conference on Nematode Neurobiology**, September 2009, Cambridge, UK.

MEDIA AND PRESS

<https://www.help4hd.org/podcast/episode/bf62339d/the-geomic-approach>. Broadcasted interview by Help4HD international, a UK-based association with mission to educate the world about Huntington's disease (HD): talking about HD, big data, machine learning and target discovery. **2021**.

<https://www.inserm.fr/information-en-sante/magazine/inserm-magazine-ndeg49>. Magazine Inserm Science et santé about about a study published by the team in Elife on a new machine learning method able to detect new HD mechanisms. **2021**.

Interview broadcasted on TV Channel TF1 about a study published in Lancet on the increase of human lifespan. **2016**.

<https://www.letemps.ch/sciences/2016/07/11/boire-jus-grenade-contrer-leffet-lage> Opinion about a study published by EPFL in Nature Medicine on the protective effects of Urolithin A on muscle function. **2016**.

<https://don frm.org/revue> Magazine FRM 'Recherche et Santé' : Maladie de Huntington, des neurones trop sensibles au stress cellulaire. **2015**.

http://www.huffingtonpost.fr/christian-neri/comprendre-les-maladies-neurodegeneratives-maladie-de-huntington_b_8708848.html Huffington Post **2015**.

http://www.lepoint.fr/editos-du-point/anne-jeanblanc/maladie-de-huntington-des-neurones-trop-sensibles-au-stress-cellulaire-25-06-2014-1840229_57.php Le Point **2014**.

<http://www.inserm.fr/espace-journalistes/des-neurones-d-emblee-trop-sensibles-au-stress-cellulaire-dans-la-maladie-de-huntington> Inserm **2014**.

http://www.huffingtonpost.fr/christian-neri/la-maladie-de-huntington-_b_4135423.html Huffington Post **2013**.

http://www.canalu.tv/video/biotv/rdv_sante_inserm_avec_christian_neri_un_ver_precieux_pour_l_etude_des_maladies_du_cerveau.1572 Rendez Vous Santé Inserm: Bio-TV **2006**

Interview broadcasted on TV Channel France 2 about a study published by the team in Nature Genetics on the neuroprotective effects of resveratrol in models of HD **2005**.

Article in Le Monde about a study published by the team in Nature Genetics on the neuroprotective effects of resveratrol in models of Huntington's disease
http://www.lemonde.fr/planete/article/2005/04/01/le-vin-rouge-contribuerait-a-proteger-les-neurones_634274_3244.html 2005.

SOCIETIES

French Society for Extracellular Vesicles (FSEV), International Society for Extracellular Vesicles (ISEV), Société des Neurosciences (France), European Society for Neurochemistry (ESN), Society of Neurosciences (USA), American Society of Human Genetics (USA), AACR (USA).

PUBLICATIONS

ORIGINAL DATA

Thi Thanh Yen Nguyen, Warith Harchaoui, Lucile Megret, Cloe Mendoza, Olivier Bouaziz, Christian Néri*, Antoine Chambaz*. Optimal transport-based machine learning to match specific patterns: application to the detection of molecular regulation patterns in omics data. **arXiv:2107.11192**. March 2023. <https://arxiv.org/abs/2107.11192>

ORIGINAL PUBLICATIONS

1. Larigot L, Bui LC, de Bouvier M, Pierre O, Pinon G, Fiocca J, Ozeir M, Tourette C, Ottolenghi C, Imbeaud S, Pontoizeau C, Blaise BJ, Chevallier A, Tomkiewicz C, Legrand B, Elena-Herrmann B, Néri C, Brinkmann V, Nioche P, Barouki R, Ventura N, Dairou J, Coumoul X. Identification of Modulators of the *C. elegans* Aryl Hydrocarbon Receptor and Characterization of Transcriptomic and Metabolic AhR-1 Profiles. **Antioxidants**. 2022. DOI: [10.3390/antiox11051030](https://doi.org/10.3390/antiox11051030).
2. Mazouzi Y, Sallem F, Farina F, Loiseau A, Tartaglia NR, Fontaine M, Parikh A, Salmain M, Néri C*, Boujday S*. Biosensing extracellular vesicle subpopulations in neurodegenerative disease conditions. **ACS sensors** 2022. DOI: [10.1021/acssensors.1c02658](https://doi.org/10.1021/acssensors.1c02658)
3. Megret L, Gris B, Sasidharan Nair S, Cevost J, Wertz M, Aaronson J, Rosinski J, Vogt TF, Wilkinson H, Heiman M, Néri C. Shape deformation analysis reveals the temporal dynamics of cell-type-specific homeostatic and pathogenic responses to mutant huntingtin. **Elife** 2021. doi: [10.7554/elife.64984](https://doi.org/10.7554/elife.64984).
4. J Voisin, F Farina, S Naphade, M Fontaine, KT Tshilenge, CG Aguirre, A Lopez-Romirez, J Dancourt, A Ginisty, S Sasidharan Nair, KL Madushani, N Zhan, FX Lejeune, M Verny, J Campisi, LM Ellerby and C Néri. FOXO3 targets are reprogrammed as Huntington's disease neural cells and striatal neurons face senescence with p16^{INK4a} increase. **Aging Cell** 2020. doi: 10.1111/acel.13226.
5. Megret L, Nair SS, Dancourt J, Aaronson J, Rosinski J, and Néri C. Combining Feature Selection and Shape Analysis Uncovers Precise Rules for miRNA Regulation in Huntington's Disease Mice. **BMC Bioinformatics** 2020 2:75. doi: 10.1186/s12859-020-3418-9.
6. Bigan E, Nair SS, Lejeune FX, Fragnaud H, Parmentier F, Megret L, Verny M, Aaronson J, Rosinski J, and Néri C. Genetic cooperativity in multi-layer networks implicates cell survival and senescence in the striatum of Huntington's disease mice synchronous to symptoms. **Bioinformatics** 2020, doi: 10.1093/bioinformatics/btz514.
7. Kacher R, Lamazière A, Heck N, Kappes V, Mounier C, Despres G, Dembitskaya Y, Perrin E, Christaller W, Sasidharan Nair S, Messent V, Cartier N, Vanhoutte P, Venance L, Saudou F, Néri C, Caboche J, Betuing S. CYP46A1 gene therapy deciphers the role of brain cholesterol metabolism in Huntington's disease. **Brain** 2019 142, 2432-2450. doi: 10.1093/brain/awz174
8. Vergallo, A., Megret, L., Lista, S., Cavedo, E., Zetterberg, H., Blennow, K., Vanmechelen, E., De Vos, A., Habert, M.O., Potier, M.C., Dubois B, Néri C, Hampel H. Plasma amyloid beta 40/42 ratio predicts cerebral amyloidosis in cognitively normal individuals at risk for Alzheimer's disease. **Alzheimers Dement** 2019, 15, 764-775.

9. N Merienne, C Meunier, A Schneider, J Seguin, SS Nair, AB Rocher, S Le Gras, C Keime, R Faull, L Pellerin, JY Chatton, C Neri, K Merienne, N Déglon. New method for cell type-specific gene expression profiling in adult mouse brain reveals normal and disease-state signatures. **Cell Reports** **2019**, in press.
10. D Guerrero-Gómez, J Antonio Mora-Lorca, B Sáenz-Narciso, FJ Naranjo-Galindo, F Muñoz-Lobato, C Parrado-Fernández, J Goikolea, Á Cedazo-Minguez, CD Link, C Neri, MD Sequedo, RP Vázquez-Manrique, E Fernández-Suárez, V Goder, R Pané, E Cabisco, P Askjaer, J Cabello, A Miranda-Vizuete. Loss of glutathione redox homeostasis impairs proteostasis by inhibiting autophagy-dependent protein degradation. **Cell Death & Differentiation** **2019**. doi.org/10.1038/s41418-018-0270-9.
11. Zerah L, Dourthe L, Cohen-Bittan J, Verny M, Raux M, Mézière A, Khiami F, Tourette C, Neri C, Le Manach Y, Riou B, Vallet H, Boddaert J. Retrospective Evaluation of a Restrictive Transfusion Strategy in Older Adults with Hip Fracture. **J Am Geriatr Soc.** **2018**, 66:1151-1157. doi: 10.1111/jgs.15371
12. Abu-Baker A, Parker A, Ramalingam S, Laganiere J, Brais B, Neri C, Dion P, Rouleau G. Valproic acid is protective in cellular and worm models of oculopharyngeal muscular dystrophy. **Neurology** **2018** 91(6):e551-e561. doi: 10.1212/WNL.0000000000005942.
13. Farina F, Lambert E, Commeau L, Lejeune FX, Roudier N, Fonte C, Parker JA, Boddaert J, Verny M, Baulieu EE and Neri C. The stress response factor daf-16/FOXO is required for multiple compound families to prolong the function of neurons with Huntington's disease. **Nature Scientific Reports** **2017**, 7:4014. doi: 10.1038/s41598-017-04256-w.
14. Melentijevic I, Toth M, Arnold M, Guasp R Harinath G, Parker JA, Neri C, C Gabel, DH Hall, Driscoll M. *C. elegans* neurons jettison protein aggregates and mitochondria into the extracellular environment in response to neurotoxic stress. **Nature** **2017**, 542 : 367-371.
15. Zerah L, Cohen-Bittan J, Raux M, Meziere A, Tourette C, Neri C, Verny M, Riou B, Khiami F, Boddaert J. Association between Cognitive Status before Surgery and Outcomes in Elderly Patients with Hip Fracture in a Dedicated Orthogeriatric Care Pathway. **J Alzheimers Dis.** **2017**, 56 :145-156.
16. Mina E, van Roon-Mom W, Hettne K, van Zwet E, Goeman J, Neri C, A C 't Hoen P, Mons B, Roos M. Common disease signatures from gene expression analysis in Huntington's disease human blood and brain. **Orphanet J Rare Dis.** **2016** 11:97.
17. Brening A, Silvestre JS, Dieudonné B, Vilar J, Faucounau V, Verny M, Neri C, Boulanger CM, Boddaert J. Biomarkers of vascular dysfunction and cognitive decline in patients with Alzheimer's disease: no evidence for association in elderly subjects. **Aging Clin Exp Res** **2016** 28(6):1133-1141.
18. EM Vayndorf, C Scerbak, S Hunter, JR Neuswanger, M Toth, JA Parker, C Neri, M Driscoll & BE Taylor. Morphological remodeling of *C. elegans* neurons during aging is modified by compromised homeostasis. **NPJ Aging and Disease Mechanisms** **2016**, 2. pii: 16001.
19. Vazquez-Manrique RV, Farina F, Cambon K, Sequedo MD, Parker AJ, Milan JM, Weiss A, Deglon N and Neri C. AMPK activation protects from neuronal dysfunction and vulnerability across nematode, cellular and mouse models of Huntington's disease. **Hum Mol Genet** **2015**, pii: ddv513.
20. Achour M, Le Gras S, Keime C, Parmentier F, Lejeune FX, Boutillier AL, Neri C, Davidson I and Merienne K. Neuronal identity genes regulated by super-enhancers are preferentially down-regulated in the striatum of Huntington's disease mice. **Hum Mol Genet** **2015**, doi: 10.1093/hmg/ddv099.
21. Tourette C, Francesca F, Vazquez-Manrique RV, Orfila AM, Voisin J, Hernandez S, Offner O, Parker JA, Menet S, Kim J, Lyu J, Choi SH, Kerry Cormier K, Edgerly CK, Bordiuk OL, Smith K, Louise A, Halford M, Stacker S, Vert JP, Ferrante RJ, Lu W & Neri C. The Wnt Receptor Ryk Reduces Neuronal and Cell Survival Capacity by Repressing FOXO Activity during the Early Phases of Mutant Huntingtin Pathogenicity. **PLoS Biology** **2014**, doi: 10.1371/journal.pbio.1001895. ➔ Editor's pick.

22. Scerbak C, Vayndorf EM, Parker JA, Neri C, Driscoll D and Taylor BE. Insulin Signaling in the Aging of Healthy and Proteotoxically Stressed Mechanosensory Neurons. **Frontiers in Genetics** **2014**, in press.
23. Abu-Baker A, Laganiere J, Gaudet R, Rochefort D, Brais B, Neri C, Dion PA and Rouleau GA. Lithium chloride attenuates cell death in oculopharyngeal muscular dystrophy by perturbing Wnt/β-catenin pathway. **Cell death and Disease** **2013**, 4:e821. doi: 10.1038/cddis.2013.342.
24. Parmentier F, Lejeune FX, and Neri C. Pathways to decoding the clinical potential of stress response FOXO-interaction networks for Huntington's disease: of gene prioritization and context dependence. **Frontiers in Aging Neurosciences** **2013**, 5 : doi: 10.3389/fnagi.2013.00022.
25. Parker JA, Vazquez-Manrique RV, Tourette C, Farina F, Offner N, Mukhopadhyay A, Orfila AM, Darbois A, Menet S, Tissenbaum HA and Neri C. Integration of β-catenin, Sirtuin and FOXO Signaling Protects from Mutant Huntingtin Toxicity. **J. Neuroscience** **2012**, 32 : 12630-40.
26. Van der Goot AT, Zhu W, Vazquez-Manrique RV, Seinstra RI, Dettmer K, Michels H, Farina F, Krijnen J, Melki R, Buijsman RC, Ruiz Silva M, Thijssen KL, Kema IP, Neri C, Oefner PJ and Nollen E. Delaying aging and the aging-associated decline in protein homeostasis by inhibition of tryptophan degradation. **Proc. Natl. Acad. Sci. USA** **2012**, 109 : 14912-7.
27. Pouladi MA, Brillaud E, Xie Y, Laffrat E, Conforti P, Graham R, Ehrnhoefer DE, Franciosi S, Zhang W, Poucheret P, Compte E, Maurel JC, Zuccato C, Cattaneo E, Neri C, Hayden MR. NP03, a novel low-dose lithium formulation, is neuroprotective in the YAC128 mouse model of Huntington disease. **Neurobiol Disease** **2012**, 48 :282-9.
28. FX Lejeune, L Mesrob, F Parmentier, C Bicep, R Vazquez, JA Parker, JP Vert, C Neri. Large-scale functional RNAi screen in *C. elegans* identifies genes that regulate the dysfunction of mutant polyglutamine neurons. **BMC Genomics** **2012**, 13 : 91 doi:10.1186/1471-2164-13-91.
29. C Burnett, S Valentini, F Cabreir, M Goss, M Somogyvári, D Skorupa, M Piper, M Houdinott, GL Sutphin, V Leko, JJ McElwee, R Vazquez, AM Orfila, D Ackerman, M Riesen, K Howard, C Neri, A Bedalov, M Kaeberlein, S Pletcher, C Sóti, L Partridge & D Gems. Absence of effects of Sir2 over-expression on lifespan in *C. elegans* and *Drosophila*. **Nature** **2011**, 477 : 482-5.
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SOFTWARES

Machine learning methods for disease modelling, target prioritization and marker discovery:

BioGemix framework for precision machine-learning and medicine.

- BioGemix is a name protected by Inserm.
- 5 APPs (SATT Lutech).

DATABASES

The Brain-C Lab Huntington's disease knowledge base: precision machine learning for Huntington's disease research:

http://www.broca.inserm.fr/BrainC_database/gene_info.php?q=Alg9

RECENT PATENTS

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