

Adjunct Coordinator

Personal Information

Name: Erwan Bezard
 Data of birth: July 17th, 1970

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Bio-sketch

Bezard, INSERM Research Director, has authored or co-authored over 200 professional publications in the field of neurobiology, most of which are on Parkinson's disease and related disorders. Listed in the Top 1% of the most cited neuroscientists (H factor=48; Source: Scopus), he is best known for his work on the compensatory mechanisms that mask the progression Parkinson's disease and on the pathophysiology of levodopa-induced dyskinesia. His current research interests include the study of the levodopa-induced dyskinesia, the intimate mechanisms of cell death in Parkinson's disease, the modelling of disease progression and the development of new strategies to alleviate symptoms and/or to slow disease progression.

Bezard is the director of a CNRS research unit located in Bordeaux, the Institute of Neurodegenerative Diseases, which features preclinical and clinical researchers working towards development of therapeutic solutions. He is also a Visiting Professor at the China Academy of Medical Sciences (Beijing, China) where he has set-up and manages a non-human primate facility dedicated to Movement Disorders. He serves on the board of international organizations such as the Michael J. Fox Foundation and Parkinson's UK. He is Associate Editor of Neurobiology of Disease and of Movement Disorders, two leading journals in the field. He serves on the editorial boards of several other neurobiology journals. Besides consulting for several drug companies in the field of movement disorders, he is a non-executive director of Plenitudes Sarl (France), Motac Neuroscience (UK) and Motac Cognition (USA).

Education

YEAR(s)	INSTITUTION AND LOCATION	DEGREE
1995	University of Bordeaux 2 (Bordeaux, France)	DEA
1998	University of Bordeaux 2 (Bordeaux, France)	PhD
1999-2001	University of Manchester (Manchester, UK)	Post-Doc
2003	University of Bordeaux 2 (Bordeaux, France)	Habilitation

Current Position

Since 2010 Director of the "Institut des Maladies Neurodégénératives", INSERM Research Director (DR1), CNRS UMR, Université de Bordeaux, France,

Since 2011 Adjunct Director of the LABEX BRAIN , Université de Bordeaux, France,

Since 2004 Co-director of the "French Bank of Cells and Tissus from Primates" (J.L. Nahon, Nice)

Since 2007 Leader of the research group: Pathophysiology of parkinsonian syndromes (n=30) <http://www.inb.u-bordeaux2.fr/dev/FR/equipe.php?equipe=Physiopathologie%20des%20syndromes%20parkinsoniens>

Other occupations

Since 2000 Non-executive director, Plénitudes Sarl (Consulting in management), France.

Since 2003 Chief Scientific Officer, Motac Neuroscience (Contract research organization), UK.

Since 2004 Non-executive director, Motac Cognition (Contract research organization), USA/UK.

Since 2006 Visiting Professor, China Academy of Medical Sciences, Beijing, China.

Since 2007 Collegium of Professors, Neurosciences PhD program, Tor Vergata University, Roma, Italy.

Since 2007 Member of executive committee, Institut Federatif de Neurosciences, Bordeaux, France.

Since 2013 Collegium of Professors, Molecular medicine program, Ferrara University, Ferrara, Italy.

Since 2014 Académico Correspondiente de la Real Academia de Medicina de Murcia, Spain

Consulting / Scientific and Editorial Boards

Since 2001 Drug Development Expert for Movement Disorders for several drug companies.

Since 2003 Member of grant review committees for the Michael J. Fox Foundation (USA)

- Since 2005 Member of scientific advisory board (executive committee 2007-2009) at the Michael J. Fox Foundation (USA)
- 2009-2014 Member of scientific advisory board at France Parkinson (France)
- 2009-2012 Member of the FENS Communication committee
- Since 2010 Member of the scientific advisory board at Association Française du Syndrome des Jambes sans Repos (France)
- Since 2011 Member of the Parkinson's UK Research Advisory Panel
- Since 2012 Founding member of the "Maison du Cerveau", Bordeaux
- 2012-2014 Expert College, National Biomedecine Agency, France
- 2013 Member – Scientific Advisory Board Neuro-PSI, Gif-Orsay-Saclay, France
- 2014 Chair – AERES committees for Centre Aubert (Lille) and Neuromodulation research & imaging unit (Neurospin, Saclay)
- Since 2015 Member of the Progressive Supranuclear Palsy France Research Advisory Panel
- Since 2007 Member of Targeted Proteins database (Dopamine receptors section) Editorial Board
- Since 2008 Member of Neurological Research Editorial Board
- Since 2008 Member of Current Neuropharmacology Editorial Board
- Since 2010 *Review Editor* of *Frontiers in Neuroscience*
- Since 2012 Member of Neuroscience Editorial Board
- Since 2013 Member of American Journal of Neurodegenerative Disease Editorial Board
- Since 2006 Associate Editor (+ Member Editorial Board since 2004) of Neurobiology of Disease**
- 2006 *Editor* of the book "Recent Breakthroughs in basal Ganglia Research", Nova Pub., USA
- 2010-2014 Science Associate Editor of Movement Disorders (Editorial board member since 2008)**
- 2010-2013 *Associate Editor* of *Journal of Neural Transmission*
- 2010 *Guest Editor* for *Neuroscience*
- 2011 *Editor* of the book "Pathophysiology, Pharmacology, and Biochemistry of Dyskinesia", International Review of Neurobiology series, Elsevier, USA
- 2013 *Plos One* Editor and Board member
- 2013-2015 Guest Editor for *Frontiers* (Co-Editor D. Dalkara)– Neuroscience Research Topics: "Systemic gene delivery to the central nervous system using Adeno-associated virus"
- Since 2014 *Review Editor* of *Frontiers in Neurology, Movement Disorders* specialty section
- Since 2015 Associate Editor (+ Member Editorial Board since 2004) of Synapse**
- 2004 Organiser of symposium entitled « New therapeutic approaches to Parkinson's Disease » at the 8th Triennial International Basal Ganglia Society Meeting, Crieff, Scotland.
- 2004-2010 Councillor of the International Basal Ganglia Society
- 2006-2007 Scientific International Committee of "Abnormal plasticity in basal ganglia : from dyskinesia to deviant behaviour" meeting, Quebec, Canada.
- 2007 Organiser of symposium entitled « Understanding mechanisms of L-dopa induced side-effects » at the 9th Triennial International Basal Ganglia Society Meeting, Netherlands.
- 2009 Organiser of symposium entitled « Striatal signaling in hyperdopaminergic related disorders » at the 9ième Colloque de la Société des Neurosciences, Bordeaux.
- 2009 Organiser of symposium entitled « Valorisation in Neurosciences » at the 9ième Colloque de la Société des Neurosciences, Bordeaux.
- 2009 Member of Local Organizing Committee of the 13th International Congress of Parkinson's Disease and Movement Disorders, Paris
- 2010 Co-organizer of the International Symposium on Future Treatment Avenues in Parkinson's disease (and Related Disorders), Bordeaux.
- 2011 Chair – Symposium: "Runaway Dopamine Receptor Signaling in L-DOPA-induced Dyskinesia: New Therapeutic Approaches ".41th Annual Meeting Society for Neuroscience, Washington, USA
- 2012 Chair – Symposium: "Breakthroughs in animal models in neurodegeneration".16th International Congress of Parkinson's Disease and Movement Disorders, Dublin, Ireland
- 2011-2013 Congress Scientific Program Committee, Movement Disorders Society, for establishing 2012 (Dublin) and 2013 (Sydney) International Congress scientific programs.
- 2013 Organizer – Symposium " Molecular biology & Pharmacology of the Basal Ganglia" at IBAGS XI, Eilat, Israel.
- 2013 Co-organizer of the International Symposium on Future Treatment Avenues in Parkinson's disease (and Related Disorders), Bordeaux.
- 2013-2015 Congress Scientific Program Committee, Movement Disorders Society, for establishing 2014 (Stockholm)and 2015 International Congress scientific programs

- 2014 Co-organizer of the International Symposium on Mitochondria functions in the Central Nervous System, Bordeaux.
- 2014 Chair – Symposium: “Improving clinical translation of cell therapy for movement disorders”. 18th International Congress of Parkinson’s Disease and Movement Disorders, Stockholm, Sweden
- 2015 Chair – Symposium: “Electrophysiological, morphological and molecular basis of levodopa-induced dyskinesias and their therapeutic implications “. 19th International Congress of Parkinson’s Disease and Movement Disorders, San Diego, USA

Past Positions

- 1994-1995 Service d’Explorations Fonctionnelles du Système Nerveux, CHU de Bordeaux
- 1995-1998 Laboratoire de Neurophysiologie, CNRS UMR 5543, Université de Bordeaux 2
- 1999-2000 Visiting Research Fellow, University of Manchester
- 2001-2005 INSERM researcher at CNRS UMR 5543, Bordeaux, France
- 2005-2009 INSERM researcher, Group leader at CNRS UMR5227, Bordeaux, France;
- 2007-2009 Research Delegate, Agence Evaluation de la Recherche et de l’Enseignement Supérieur

Professional Memberships

- 1996-present Member, Societe des Neurosciences (France)
- 1996-present Member, Federation of European Neuroscience Societies
- 1996-present Member, Society For Neuroscience (USA)
- 1999-present Member, Club des Ganglions de la Base (France)
- 2002-present Member, Movement Disorders Society (USA).
- 2004-present Member, International Basal Ganglia Society
- 2005-present Member of the DopaNet network

Awards

- 2010 Paul Harris Fellow of the Rotary International
- 2010 J.W. Langston Award of the Michael J. Fox Foundation (USA)
- 2011-2014 INSERM Award for Scientific Excellence
- 2014 ANA Award “Best Paper of the Year”
- 2014 Grand Prix Fondation de France

Key bibliometric numbers

Top 1% of most cited neuroscientists (Isi Web of Knowledge)

Top 250 PD Investigators 2001-2010 (Journal of PD 2012)

Publications: 198 - H factor: 48

Selection of papers:

1. N.M. Urs, S. Bido, S.M. Peterson, T.L. Daigle, C.E. Bass, R. Gainetdinov, E. Bezard and M. G. Caron. Targeting beta-arrestin2 in the treatment of L-DOPA-induced dyskinesia in Parkinson’s disease. **Proceedings of National Academy of Sciences USA** 2015 pii: 201502740
2. B. Dehay, M. Bourdenx, P. Gorry, S. Przedborski, M. Vila, S. Hunot, A. Singleton, C.W. Olanow, K.M. Merchant, E. Bezard, G.A. Petsko and W.G. Meissner. Targeting α -synuclein for treating Parkinson’s disease: mechanistic and therapeutic considerations. **Lancet neurology** (in press)
3. E. Bezard and M. Carta. Could the serotonin theory give rise to a treatment for levodopa-induced dyskinesia in Parkinson’s disease? **Brain** 2015 138: 829-30
4. P. Barroso-Chinea, M.L. Thiolat, S. Bido, A. Martinez, E. Doudnikoff, J. Baufreton, M. Bourdenx, B. Bloch, E. Bezard and M.L. Martin-Negrier. D1 dopamine receptor stimulation impairs striatal proteasome activity in Parkinsonism through 26S proteasome disassembly. **Neurobiology of Disease** 2015, 78: 77-87.
5. A. Abdi, N. Mallet, F.Y. Mohamed, A. Sharott, P.D. Dodson, K.C. Nakamura, S. Suri, S.V. Avery, J.T. Larvin, F.N. Garas, S. Garas, F. Vinciati, S. Morin, E. Bezard, J. Baufreton and P.J. Magill. Prototypic and Arkypallidal Neurons in the Dopamine-Intact External Globus Pallidus. **Journal of Neuroscience** 2015, 35(17): 6667-6688.
6. M. Shariatgorji, A. Nilsson, N. Schintu, R.J.A. Goodwin, X. Zhang, A.R. Crossman, E. Bezard, P. Svenningsson and P.E. Andren. Direct targeted quantitative molecular imaging of neurotransmitters in brain tissue sections. **Neuron** 2014, 84: 697-707.
7. M. Yin, D.A. Borton, J. Komar, N. Agha, Y. Lu, H. Li, J. Laurens, Y. Lang, Q. Li, C. Bull, L. Larson, D. Rosler, E. Bezard, G. Courtine, A.V. Nurmikko. Wireless neurosensing platform for unconstrained brain research. **Neuron** 2014, 84: 1-13.
8. M.F. Bastide, B. de la Crompe, E. Doudnikoff, P.O. Fernagut, C.E. Gross, N. Mallet, T. Boraud and E. Bézard. Inhibiting Lateral Habenula improves L-Dopa induced dyskinesia. **Biological Psychiatry** doi: 10.1016/j.biopsych.2014.08.022

9. M. Engeln, M.F Bastide, E. Toulmé, B. Dehay, M. Bourdenx, E. Doudnikoff, Q. Li, C.E Gross, E. Boué-Grabot, A. Pisani, E. Bezard, P.O. Fernagut. Selective inactivation of striatal FosB/ Δ FosB-expressing neurons alleviates L-Dopa-induced dyskinesia. **Biological Psychiatry** doi: 10.1016/j.biopsych.2014.07.007 (Co-last author).
10. P.-O. Fernagut B. Dehay, A. Maillard, E. Bezard, P. Perez, A. Pavy-Le Traon, O. Rascol, A. Foubert-Samier, F. Tison, W. G Meissner. Multiple System Atrophy: a prototypical synucleinopathy for disease-modifying therapeutic strategies. **Neurobiology of Disease** 2014, 67C:133-139.
11. M. Engeln, P. De Deurwaerdère, Q. Li, E. Bezard, P.-O. Fernagut. Widespread monoaminergic dysregulation of both motor and non-motor circuits in Parkinsonism and Dyskinesia. **Cerebral Cortex** 2014 (in press) (Co-last author)
12. A.H.V. Schapira, C.W. Olanow, J.T. Greenamyre, E. Bezard. Slowing neurodegeneration in Parkinson disease and Huntington disease: Future therapeutic perspectives. **Lancet** 2014, 384 (9942):545-555.
13. F. Bassil, P.O. Fernagut, E. Bezard and W.G. Meissner. Insulin, IGF-1 and GLP-1 signaling in neurodegenerative disorders: targets for disease modification? **Progress in Neurobiology** 2014, 118C:1-18.
14. SMJ. Camus, C. Rochais, C. Blois-Heulin, Q. Li, M. Hausberger and E. Bezard Depressive-like behavioural profiles in captive-bred single- and socially-housed rhesus and cynomolgus macaques: a species comparison. **Frontiers in Behavioral Neuroscience** 2014, 8: 47, doi: 10.3389/fnbeh.2014.00047.
15. G. Porras, P. De Deurwaedere, L. Qin, M. Marti, R. Morgenstern, R. Sohr, E. Bezard, M. Morari and W. Meissner. L-dopa-induced dyskinesia: beyond an excessive dopamine tone in the striatum. **Scientific Reports** 2014, 4: 3730.
16. C. Hyacinthe, Q. Barraud, F. Tison, E. Bezard and I. Ghorayeb. D1 receptor agonist improves sleep-wake parameters in experimental parkinsonism. **Neurobiology of Disease** 2014, 63: 20-24.
17. A. Recasens, B. Dehay, J. Bové, I. Carballo-Carbajal, S. Dovero, A. Pérez, P.O. Fernagut, J. Blesa, A. Parent, C. Perier, I. Fariñas, J.A. Obeso, E. Bezard and M. Vila.. Lewy Body extracts from Parkinson's Disease Brains trigger α -Synuclein Pathology and Neurodegeneration in Mice and Monkeys **Annals of Neurology** 2014, 75:351-62 (Co-last author)- **Paper of Year 2014 of Annals of Neurology**
18. M. Bourdenx, A. Nilsson, H. Wadensten, M. Fälth, Q. Li, A.R. Crossman, P.E. Andrén, E. Bezard. Abnormal Structure-Specific Peptide Transmission and Processing in a Primate Model of Parkinson's Disease and L-DOPA-induced Dyskinesia. **Neurobiology of Disease** 2014, 62: 307-312.
19. M. Bastide, S. Dovero, G. Charron, G. Porras, C. Gross, P.O. Fernagut, E. Bezard. Immediate-early genes expression in structures outside the basal ganglia is associated to L-dopa-induced dyskinesia. **Neurobiology of Disease** 2014, 62: 179-192.
20. T.P. Blackburn, E. Bezard. Neurological drug development: A guide for a start-up biotech. **Neurobiology of Disease** 2014 doi:pil: S0969-9961(13)00225-8. 10.1016/j.nbd.
21. L. Ladepeche, J.P. Dupuis, D. Bouchet, E. Doudnikoff, L. Yang, Y. Campagne, E. Bézard, E. Hosity and L. Groc. Single molecule imaging of the functional crosstalk between surface NMDA and dopamine D1 receptors. **Proceedings of National Academy of Sciences USA** 2013, 110: 18005-18010.
22. J. Dupuis, M. Feyder, C. Miguelez, L. Garcia, S. Morin, D. Choquet, E. Hosity, E. Bezard, G. Fisone, B. Bioulac and J. Baufreton Dopamine-dependent long-term depression at subthalamo-nigral synapses is lost in experimental Parkinsonism. **Journal of Neuroscience** 2013, 33:14331-14341.
23. M. Krawczyk, X. Mason, J. DeBacker, R. Sharma, C. Normandeau, E. Hawken, C. Di Prospero, C. Chiang, A. Martinez, A. Jones, E. Doudnikoff, S. Caille, E. Bezard, F. Georges, and E. Dumont. D1 dopamine receptor-mediated LTP at GABA synapses encodes motivation to self-administer cocaine in rats. **Journal of Neuroscience** 2013, 33: 11960-11971.
24. B. Dehay, M. Martinez-Vicente, G. A. Caldwell, K. A. Caldwell, Z. Yue, M. R. Cookson, C. Klein, M. Vila and Erwan Bezard. Lysosomal Impairment in Parkinson's disease. **Movement Disorders** DOI: 10.1002/mds.25462
25. M. Engeln, S. Fasano, S.H. Ahmed, M. Cador, V. Baekelandt, E. Bezard, P.O. Fernagut. L-Dopa gains psychostimulant-like properties after nigral dopaminergic loss. **Annals of Neurology** 2013, doi: 10.1002/ana.23881
26. F. Tison, L. Nègre-Pagès, M. Meissner, S. Dupouy, Q. Li, M.L. Thiolat, T. Thiollier, M. Galitzky, F. Ory-Magne, A. Milhet, L. Marquine, U. Spampinato, O. Rascol, E. Bezard. Simvastatin decreases levodopa-induced dyskinesia in monkeys, but not in a randomized, placebo-controlled, multiple cross-over ("n-of-1") exploratory trial of simvastatin against levodopa-induced dyskinesia in Parkinson's disease patients. **Parkinsonism Relat Disord.** 2013, 19:416-421
27. E. Bezard, E. Tronci, E. Pioli, Q. Li, G. Porras, A. Björklund and M. Carta. Study of the antidyskinetic effect of eltopazine in animal models of levodopa-induced dyskinesia. **Movement Disorders** 2013; 28:1088-96
28. M.-H. Carron, M. Perret, A. Vital, E. Bezard and B. Dehay. Age-dependent alpha-Synuclein aggregation in the *Microcebus murinus* lemur primate. **Scientific Reports** 2012; 2:910. doi: 10.1038/srep00910.
29. J.S. Schneider, E. Pioli, Y. Jianzhong, Q. Li and E. Bezard. Effects of memantine and galantamine on cognitive performance in aged rhesus macaques. **Neurobiology of Aging**, 2013, 34: 1126-1132
30. J.S. Schneider, E. Pioli, Y. Jianzhong, Q. Li and E. Bezard. Levodopa improves motor deficits but disrupts cognitive performance in a macaque MPTP model of Parkinson's disease. **Movement Disorders** 2013 (doi: 10.1002/mds.25258). (Highlighted in Movement Disorders Editorial, 2013, 28:563).

31. M. Marti, D. Rodi, Q. Li, Remo Guerrini, S. Fasano, I. Morella, A. Tozzi, R. Brambilla, P. Calabresi, M. Simonato, E. Bezard and M. Morari. Nociceptin/orphanin FQ receptor agonists attenuate L-DOPA-induced dyskinesias. **Journal of Neuroscience** 2012, 32: 16106-16119.
32. C. Miguelez, S. Morin, A. Martinez, M. Goillandeau, E. Bézard, B. Bioulac and J. Baufreton. Altered pallido-pallidal synaptic transmission leads to aberrant firing of Globus Pallidus neurons in a rat model of Parkinson's disease. **Journal of Physiology** 2012, 8: 1389-1391.
33. G. Porras, A. Berthet, B. Dehay, Q. Li, L. Ladepeche, E. Normand, S. Dovero, A. Martinez, E. Doudnikoff, M.-L. Martin-Négrier, Q. Chuan, B. Bloch, D. Choquet, E. Boué-Grabot, L. Groc and E. Bezard. PSD-95 expression controls L-dopa dyskinesia through Dopamine D1 receptor trafficking. **Journal of Clinical Investigation**, 2012, 122:3977-3989 – Press release and video interview on JCI website
34. M. Engeln, S.H. Ahmed, C. Vouillac, F. Tison, E. Bezard, P.-O. Fernagut. Reinforcing properties of Pramipexole in normal and parkinsonian rats. **Neurobiology of Disease**, 2013, 49: 79-86
35. B. Dehay, M. Martinez-Vicente, A. Ramirez, C. Perier, C. Klein, M. Vila and E. Bezard. Lysosomal dysfunction in Parkinson disease: ATP13A2 gets into the groove. **Autophagy**, 2012, 8: 1-3
36. P.A. Tass, L. Qin, C. Hauptmann, S. Dovero, E. Bezard, T. Boraud, and W.G. Meissner. Coordinated Reset has sustained after-effects in parkinsonian monkeys. **Annals of Neurology**, 2012, 72: 816-820 (F1000).
37. B. Dehay, A. Ramirez, M. Martinez-Vicente, C. Perier, M.H. Canron, E. Doudnikoff, A. Vital, M. Vila, C. Klein and E. Bezard. Loss of P-type ATPase ATP13A2/PARK9 function induces general lysosomal deficiency and leads to Parkinson disease neurodegeneration. **Proceedings of National Academy of Sciences USA** 2012, 109(24): 9611-6.
38. B. Dehay, D. Dalkara, S. Dovero, Q. Li and E. Bezard. Systemic scAAV9 variant mediates brain transduction in newborn rhesus macaques. **Scientific Reports** 2012, 2, 253; DOI:10.1038/srep00253.
39. A. Berthet, E. Bezard, G. Porras, S. Fasano, P. Barroso-Chinea, B. Dehay, A. Martinez, M.L. Thiolat, M. Nosten-Bertrand, B. Giros, B. Bloch and M.L. Martin-Negrier. L-DOPA Impairs Proteasome Activity in Parkinsonism through D1 Dopamine Receptor. **Journal of Neuroscience**, 2012, 32(2), 681–691.
40. G. Charron, E. Doudnikoff, A. Laux, A. Berthet, G. Porras, M.-H. Canron, P. Barroso-Chinea, Q. Li, C. Qin, M. Nosten-Bertrand, B. Giros, F. Delalande, A. Van Dorsselaer, A. Vital, Y. Goumon and E. Bezard. Endogenous morphine-like compound immunoreactivity increases in parkinsonism. **Brain** 2011, 134: 2321-2338.
41. Meissner, W. G., M. Frasier, T. Gasser, C. G. Goetz, A. Lozano, P. Piccini, J. A. Obeso, O. Rascol, A. Schapira, V. Voon, D. M. Weiner, F. Tison and E. Bezard (2011). "Priorities in Parkinson's disease research." **Nat Rev Drug Discov** 10(5): 377-393.
42. S. Fasano*, E. Bezard*, A. D'Antoni, M. Indrigo, V. Francardo, L. Qin, S. Dovero, M. Cerovic, M.A. Cenci and R. Brambilla. Inhibition of Ras-GRF1 signaling in the striatum reverts motor symptoms associated with L-DOPA-induced dyskinesia. **Proceedings of National Academy of Sciences USA** 2010 107 (50): 21824-21829 (Co-first author).
43. M. R. Ahmed, A. Berthet, E. Bychkov, G. Porras, Q. Li, B.H. Bioulac, Y.T. Carl, B. Bloch, S. Kook, I. Aubert, S. Dovero, E. Doudnikoff, V.V. Gurevich, E.V. Gurevich and E. Bezard. Lentiviral overexpression of GRK6 alleviates L-DOPA-induced dyskinesia in experimental Parkinson's disease. **Science Translational Medicine** 2010, 2 (28) 28ra28 (Highlighted in *Cell*, 2010, 141:737) (F1000=8).
44. V. Voon, P.O. Fernagut, J. Wickens, C. Baunez, M. Rodriguez, N. Pavon, J.L. Juncos, J.A. Obeso and E. Bezard. Disorders of dopamine stimulation in Parkinson's disease: from dyskinesias to impulse control disorders. **Lancet Neurology** 2009, 8: 1140-1149.
45. A. Berthet, G. Porras, E. Doudnikoff, H. Stark, M. Cador, E. Bezard and B. Bloch. Pharmacological analysis demonstrates dramatic alteration of D1 dopamine receptor neuronal distribution in the rat analog of L-DOPA-induced dyskinesia. **Journal of Neuroscience** 2009, 29: 4829-4835. (co-last author)
46. A. Muñoz, Q. Li, F. Gardoni, E. Marcello, C. Qin, T. Carlsson, D. Kirik, M. Di Luca, A. Björklund, E. Bezard# and Manolo Carta#. Serotonin autoreceptor agonists for the treatment of L-dopa-induced dyskinesia. **Brain** 2008, 131: 3380-3394 (Co-last author + corresponding)
47. S. Schuster, A. Nadjar, J.T. Guo, Q. li, C. Itrich, B. Hengerer and E. Bezard. The HMG-CoA Reductase Inhibitor Lovastatin reduces severity of L-dopa-induced abnormal involuntary movements in experimental Parkinson's disease. **Journal of Neuroscience** 2008, 28: 4311-4316.
48. I. Aubert, C. Guigoni, L. Qin, S. Dovero, K. Hakansson, N. Barthe, B. H. Bioulac, C. E. Gross, G. Fisone, B. Bloch and E. Bezard. Increased D1 dopamine receptor signalling in levodopa-induced dyskinesia. **Annals of Neurology** 2005, 57: 17-26.
49. E. Bezard, S. Ferry, U. Mach, H. Stark, L. Leriche, T. Boraud, C.E. Gross and P. Sokoloff. Attenuation of levodopa-induced dyskinesia by normalizing dopamine D3 receptor function. **Nature Medicine** 2003, 9: 762-767.
50. E. Bezard, S. Dovero, C. Prunier, P. Ravenscroft, S. Chalou, D. Guilloteau, A.R. Crossman, B. Bioulac J.M. Brotchie, and C. Gross. Relationship between the appearance of symptoms and the level of nigrostriatal degeneration in a progressive MPTP-lesioned macaque model of Parkinson's disease. **Journal of Neuroscience** 2001, 21:6853-6861

Patent

Title: A method for the pre-symptomatic and early diagnosis of Parkinson's disease.

Co-inventors : E. Bezard, M.P. Hill, A.R. Crossman and J.M. Brotchie (Canadian Patent N° 236469).

Title: Use of eltoprazine for treating L-dopa-induced dyskinesia.

Co-inventors : E. Bezard, M. Carta and A. Bjorklund (Patent filed).

Invited seminars (limited to 2010 - 2015)

1. Levodopa-induced dyskinesia: from target identification to therapeutic intervention. WFN XVIII World Congress on Parkinson's Disease and Related Disorders, Miami, USA.
2. Priming for L-dopa-induced dyskinesia in Parkinson's disease: Myth or reality? University of Lund, Lund, Sweden.
3. Dégénérescence du système dopaminergique: mécanismes et corrélats physiologiques. Congrès de Physiologie, de Pharmacologie et de Thérapeutique. Bordeaux, France
4. Involvement of canonical and non-canonical D1 signalling pathways in L-dopa-induced dyskinesia. 30th Anniversary of the Institute of Lab Animal Sciences, Chinese Academy of Medical Sciences, Beijing, China.
5. Innovative targets for Parkinson's disease and L-dopa induced dyskinesia, Abbot Meeting, Weesp, Netherlands
6. Functional Inhibition of RasGRF1 in the MPTP-lesioned NHP Model for Treating Levodopa-induced Dyskinesia. Parkinson's Disease Therapeutics Conference, New York, USA.
7. A randomised, placebo-controlled, multiple crossover (n-of-1), pilot trial of simvastatin for the treatment of LID. Michael J Fox Foundation, New York, USA
8. Modèles Primates de Maladies Neurologiques et Psychiatriques. XXXVI eme colloque annuel de l'AFSTAL, Lyon, France.
9. Translational research programs for treating levodopa-induced dyskinesia. ETH Zurich, Zurich, Switzerland.
10. Parkinson's disease treatment: Case of L-dopa-induced dyskinesia. Inserm School, Paris.
11. Gene delivery in neurodegenerative diseases: from model to treatment validation. PepCon-2011, Beijing, China.
12. Animal-based scales for rating dyskinesias: interfaces with human scales in PD. Michael J Fox Foundation, New York, USA.
13. Translational research programs for treating levodopa-induced dyskinesia. Lundbeck Research USA, New York, USA.
14. Pathophysiology of LID in MPTP macaque model: highlight on dystonia. 3rd Biennial Workshop on Dystonia, Roma, Italy.
15. Lentiviral-mediated silencing of PSD-95 diminishes L-DOPA-induced dyskinesia in experimental parkinsonism. Club des Gangions de la Base, Marseille, France.
16. Classic animal models. International Consensus Conference on Neuroprotection in Parkinson's Disease, Vatican City, Italy.
17. Functional Inhibition of RasGRF1 in the MPTP-lesioned NHP Model for Treating Levodopa-induced Dyskinesia. ANR Conference, Lyon, France.
18. Pharmacological and genetic modulation of signalling pathways improves L-dopa induced dyskinesia: RGS, GRK and Ras-ERK. SiNAPSA FENS meeting, Ljubljana, Slovenia.
19. Controlling the D1 receptor signaling by disrupting D1R-PSD-95 interaction diminishes L-DOPA-induced dyskinesia. 41th Annual Meeting Society for Neuroscience, Washington, USA.
20. Lentiviral-mediated silencing of PSD-95 diminishes L-DOPA-induced dyskinesia in experimental parkinsonism. Institut de la Moelle et du Cerveau, Paris, France
21. Animal models of Parkinson's disease. Winter meeting of the Société de Neurophysiologie Clinique de Langue Française, Paris, France.
22. Lentiviral-mediated silencing of PSD-95 diminishes L-DOPA-induced dyskinesia in experimental parkinsonism. 3eme Journée SYNAPSE, Bordeaux, France
23. La recherche sur la maladie de Parkinson: état des lieux. Journée mondiale de la Maladie de Parkinson, Bordeaux, France.
24. Development of transgenic monkeys using local or systemic viral vector delivery. 16th International Congress of Parkinson's Disease and Movement Disorders, Dublin, Ireland
25. Lentiviral-mediated silencing of PSD-95 diminishes L-DOPA-induced dyskinesia in experimental parkinsonism. 8th FENS Forum of Neuroscience, Barcelona, Spain
26. Neuroprotection in Parkinson's disease - the choice of animal models. British Pharmacological Society, London, UK
27. La Physiopathologie de la maladie de Parkinson : les hypothèses classiques et les nouvelles. 1ère Université du Parkinson, Paris, France

28. Gene therapy for L-DOPA-induced dyskinesia, Network of European CNS Transplantation and Restoration meeting, Lund, Sweden
29. Forthcoming therapeutic targets in Parkinson's disease. Master Class Pharmacology Lundbeck, Paris, France
30. Animal models for analyzing neurodegeneration. ITMO Workshop on animal models and neurosciences. Paris, France.
31. Animal models of Parkinson's disease: translational characteristics. EFOR Workshop. Paris, France.
32. Conferencia de Clausura. Animal models of Parkinson's disease. Facts and Fancy. 30 años de Enfermedad de Parkinson y Trastornos del Movimiento, Pamplona, Spain.
33. Translational research for L-DOPA-induced dyskinesia in Parkinson's disease. Colloque de la Société des Neurosciences, Lyon, France
34. Translational research for L-DOPA-induced dyskinesia in Parkinson's disease. Dopamine 2013, Alghero, Italy
35. Peculiar behavior of D1 dopamine receptor in L-dopa induced dyskinesia, Oxford Parkinson's disease Center, Oxford, UK.
36. Novel evidence from non-human primate models. 4th Biennial Workshop on Dystonia, Roma, Italy.
37. Blue Ribbon lecture: Overview of recent developments in the basic science of movement disorders. 17th International Congress of Parkinson's Disease and Movement Disorders, Sydney, Australia
38. Translational research for L-DOPA-induced dyskinesia in Parkinson's disease. Cardiff University, Cardiff, UK
39. New animal models of Parkinson's disease. International Symposium on Future Treatment Avenues in Parkinson's disease (and Related Disorders), Bordeaux, France.
40. Lewy Body extracts from Parkinson's Disease Brains trigger α -Synuclein Pathology and Neurodegeneration in Mice and Monkeys. Michael J Fox Foundation Synuclein Imaging Summit, New York, USA
41. Premotor Parkinsonism Models. XX World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland.
42. Pathophysiology of Levodopa-induced Dyskinesia. UCB Pharma, Braine L'Alleud, Belgium.
43. Synucleopathy models. UCB Pharma, Braine L'Alleud, Belgium.
44. Modèles précliniques de maladies neurologiques: quelle translation? Académie de Pharmacie, Paris, France.
45. Functional significance of the direct and indirect pathways in the basal ganglia. 18th International Congress of Parkinson's Disease and Movement Disorders, Stockholm, Sweden.
46. Translational research for L-DOPA-induced dyskinesia in Parkinson's disease: towards non-basal ganglia targets. University of Ferrara, Ferrara, Italy.
47. Why bother using non-human primate models of cognitive disorders in translational research?" 6th annual meeting of the European Molecular Cognition Society, Milano, Italy.
48. Maladies neurodégénératives et neuroprotection. Ecole de l'Inserm 2014, Chateau Suduirault, France.
49. The role of non-human primate models of Parkinson's disease. 2014 Grand Challenges in Parkinson's Disease, Grand Rapids, USA.
50. Dopamine agonists for Parkinson's disease: Can we do better? COST Meeting 2014, Bordeaux, France.
51. Pitfalls, roadblocks and shortcomings in translational research for Parkinson's: how we can overcome them to develop new treatments. Keynote speech, Parkinson's UK Research Conference 2014, York, United Kingdom.
52. Contraintes et Innovation thérapeutique: une équation impossible. Congrès Annuel des Managers de Santé, Paris, France.
53. Autophagie et maladie de Parkinson: physiopathologie et approches thérapeutiques. Société Française de Neurologie, Paris, France.
54. Physiopathologie des dyskinésies induites par la L-DOPA. Scéance dédiée de l'Académie de Médecine, Paris, France
55. Overview of non-motor symptoms in non-human primate models of Parkinson's disease. Non motor symptoms in Parkinson's disease Symposium, New York Academy of Science, New York, USA
56. La maladie de Parkinson: état des lieux et développements. Fondation Bordeaux Université, Bordeaux, France.
57. Boosting autophagy for combatting cell death in PD. Institute of Medical Sciences, University of Aberdeen, Aberdeen, UK.
58. La transconformation de l'alpha-synucléine comme cause de la maladie de Parkinson. Scéance dédiée de l'Académie de Médecine, Paris, France.

59. Molecular basis of levodopa-induced dyskinesias and their therapeutic implications. 19th International Congress of Parkinson's Disease and Movement Disorders, San Diego, USA.
60. Modelling proteinopathies in animals: towards translational approaches, NeuroConX 2015-Innovation Exchange , Charlottetown, Canada.
61. New targets covering side effects of PD treatments. World Parkinson Coalition Scientific Update 2015, Webinar.
62. Boosting autophagy for combatting cell death in PD. Institut de Recherche des Saints-Pères, Paris, France.
63. Neurological disease-specific protein misfolding- the role of autophagosomes and lysosomes. ANMI Conference : Autophagy and Proteinopathy, Chantilly 2015.

64.

Other invitations

1. Habilitation of Afsaneh Gaillard, External examiner, Poitiers, France.
2. PhD of Sarah Nicholson, External examiner, Manchester, UK.
3. PhD of Estelle Rousselet, External examiner, Paris, France
4. PhD of Martin Lundblad, External examiner, Lund, Sweden.
5. PhD of Mette Pierri, External examiner, Copenhagen, Denmark.
6. PhD of Guije Wang, External examiner, Manchester, UK.
7. PhD of Noah Fogelson, External examiner, London, UK.
8. PhD of Benjamin Pasquereau, Bordeaux, France.
9. PhD of Emilie Giaime, Sophia-Antipolis, France.
10. PhD of Mickaël Decressac, Poitiers, France
11. Habilitation of Peter VanHoutte, External examiner, Paris, France.
12. PhD of Jennifer Kaufking, Strasbourg, France
13. Habilitation of Véronique Sgambato, External examiner, Lyon, France.
14. PhD of Sara Neumane, External examiner, Lyon, France.
15. PhD of Cristina Alcacer, External examiner, Paris, France.
16. PhD of Eugénie Mutez, External examiner, Lille, France
17. PhD of Elodie Durand, External examiner, Clermont-Ferrand, France
18. PhD of Ludivine Breger, External examiner, Cardiff, UK
19. PhD of Maxime Assous, External examiner, Marseille, France
20. Habilitation of Agnes Nadjar, External examiner, Bordeaux, France.
21. Habilitation of Emmanuel Valjent, External examiner, Montpellier, France.
22. Habilitation of Laetitia Prestoz, External examiner, Poitiers, France.
23. Habilitation of François Georges, President, Bordeaux, France.

Ongoing Research Support

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| 2010-2014 | FP7-ICT-2009-5 | Bezard (PI) |
| ICT-5-3.9 - Microsystems and Smart Miniaturised Systems; ReWalk Neuroprosthetic interface systems for restoring motor functions. | | |
| Amount: 530,000 euros. | | |
| 2011-2013 | CARIPLO Fondation (Italy) | Brambilla (PI) & Bezard (co-PI) |
| Devising cell permeable peptides regulating neuronal Ras-ERK signalling in vivo. | | |
| Amount: 100,000 euros. | | |
| 2011-2013 | France Parkinson (France) | Corvol (PI) & Bezard (co-PI) |
| Molecular signature associated to L-dopa-induced dyskinesia in non-human primate striatum. | | |
| Amount: 28,600 euros. | | |
| 2012-2013 | Michael J Fox Foundation | Bezard (PI) & Baufreton (co-PI) |
| Targeting dramatically activated astrocytic networks for managing LID: towards target validation | | |
| Amount: \$140,000. | | |
| 2012-2013 | Michael J Fox Foundation | Carta (PI), Bezard (co-PI) & Morelli (co-PI) |
| Pharmacological targeting of the 5-HT ₁ , A _{2A} and NMDA receptors: an integrative approach to dyskinesia | | |
| Amount: \$177,000 (for Bordeaux). | | |
| 2013-2016 | Agence Nationale de la Recherche | Bezard (PI) |
| Modelling multi-factorial neurodegeneration in Parkinson's disease: removing roadblocks towards the clinic | | |
| Amount: 560,000 euros. | | |

- 2013-2014 Michael J Fox Foundation Carta (PI) & Bezard (co-PI)
5-Hydroxy-Tryptophan and eltoprazine for the treatment of L-DOPA-induced dyskinesia
Amount: \$62,500 (for Bordeaux).
- 2013-2016 Michael J Fox Foundation Bezard (PI)
Prion-like dissemination of synuclein pathology: a non-human primate study
Amount: \$300,000.
- 2013-2017 Institut de Recherche en Santé du Canada (IRSC) Duval (PI) & Bezard (co-PI)
The impact of drug-induced dyskinesia and its management on the daily life activities of patients with Parkinson's disease
Amount: \$703,514
- 2013-2014 Michael J Fox Foundation Bezard (PI)
Mu opioid receptor target for LID: stop or continue? (MOR4LID)
Amount: \$132,125
- 2014-2016 Medical Research Council (UK) Tieu (PI) Bezard (collaborator)
Manipulating mitochondrial dynamics as a potential therapeutic strategy for Parkinson's disease
Amount: €90,000 (for Bordeaux).
- 2014-2016 Michael J Fox Foundation Gise (PI) & Bezard (co-PI)
Oligomer toxicity inhibition in synucleinopathies (OTIS): Evaluation of oligomer modulator Anle138b in a seeding-based primate model of PD
Amount: \$500,000
- 2015-2016 Fondation de France Bezard (PI)
Grand Prix
Amount: €100,000
- 2015-2016 CNRS PEPS Interdisciplinaires 2015 Bezard (co-investigator)
Octodon degus: Model for the study of age-associated synucleinopathy
Amount: €20,000
- 2015-2016 Sino-Swiss Science and Technology Cooperation Bezard (co-investigator)
Translational neuromodulation therapies to improve locomotion in Parkinson's disease
Amount: €130,000 (for Bordeaux)
- 2015-2018 Agence Nationale de la Recherche Bezard (co-PI)
Uncovering early disorganization of the brain extracellular space in neurodegenerative diseases
Amount: €140,000