NAME **Alain Buisson**, Ph.D.	POSITION TITLE Professor of Neuroscience at the University Grenoble Alpes Group leader at Inserm U1218-Grenoble Institut Neurosciences
PLACE & DATE OF BIRTH Voiron, France, 15 Février 1964	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Université Bordeaux 2, Dr. Moulins, Arcachon, FR.	M.S.	1985-1986	Electrophysiology
Université Paris Descartes, Dr. Plotkine, Paris, FR.	Ph.D	1989-1993	Animals models for cerebral ischemia
Pr. D.W. Choi, Washington University, Saint Louis USA.	Postdoc	1993-1996	Cellular biology of excitotoxicity
Dr McKenzie, Cyceron, Caen, FR.	Postdoc	1996-1997	Cellular Imaging in Neurobiology
Université de Basse Normandie, Caen, FR	HDR	1997	Molecular and cellular Neurobiology of diseases

RESEARCH AND PROFESSIONAL EXPERIENCE

1997-2002 Assistant Professor: Maitre de conférence Université de Caen Basse Normandie.
2002-2010 Professor of Neuroscience: PR2 Université de Caen Basse Normandie.
2010- Professor of Neuroscience: PRCE Université Grenoble Alpes
2010- Team leader of Group: "NeuroPathologies et Dysfonctions Synaptiques" at Gin U1216

MEMBERSHIPS AND PROFESSIONAL ACTIVITIES

Member of: Société Francaise des Neurosciences (1996-); Society For Neuroscience (USA, 1993)
"AD Hoc Comittees: Scientific council Ligue Européenne Contre la Maladie d'Alzheimer LECMA (2010-); Scientific council Association France Alzheimer (2008-2011)

Ad hoc reviewer for many journals (J. Neurosci., TINS, Nature Neuroscience review, Brain) and grants (Israel Science Foundation, Alzheimer Research UK; Cantalan Governement Grants)

AWARDS, FELLOWSHIPS AND HONORS

2017: recipient of the Fondation Claude Pompidou

PUBLICATIONS, Original and peer-reviewed

Total number of 82 publications referenced in PubMed total number of 4864 citations (wo self citations) – Average citation per item (wo conference proceedings): 58,2 - H Index 40 (Mars 2023) Most important papers highlighted in blue.

Long term worsening of amyloid pathology, cerebral function, and cognition after a single inoculation of beta-amyloid seeds with Osaka mutation (2023) Celestine, M ; Jacquier-Sarlin, M ; Borel, E ; Petit, F ; Perot, JB ; Herard, AS ; Bousset, L; Buisson, A ; Dhenain, M (2023) Acta Neuropathol. Com., Vol 11, DOI 10.1186/s40478-023-01559-0

Treating early postnatal circuit defect delays Huntington's disease onset and pathology in mice (2022) Braz, BY ; Wennagel, D ; Ratie, L ; de Souza, DAR ; Deloulme, JC [1] ; Barbier, EL ; Buisson, A; Lante, F ; Humbert, S, SCIENCE, Vol. 377, Issue 6613, Page1398-+; DOI 10.1126/science.abq5011

Astrocyte-neuron interplay is critical for Alzheimer's disease pathogenesis and is rescued by TRPA1 channel blockade, Paumier, Adrien [1] Boisseau, Sylvie [1] Jacquier-Sarlin Muriel) [1] Pernet-Gallay, Karin [1] ; Buisson, Alain Albrieux, Mireille
Mar 29 2022 | Jul 2021 (Early Access) | BRAIN 145 (1) , pp.388-405

VEGF counteracts amyloid-beta-induced synaptic dysfunction ;
Martin, Laurent, Bouvet, Pauline, Chounlamountri, Naura, Watrin, Chantal, Besancon, Roger, Pinatel, Delphine, Meyronet, David, Honnorat Jerome, Buisson, Alain, Salin, Paul-Antoine, Meissirel, Claire
May 11 2021 | May 2021 (Early Access) | CELL REPORTS 35 (6)

Pyr1-Mediated Pharmacological Inhibition of LIM Kinase Restores Synaptic Plasticity and Normal Behavior in a Mouse Model of Schizophrenia
Gory-Faure, Sylvie, Powell, Rebecca, Jonckheere, Julie, Lante, Fabien, Denarier, Eric, Peris, Leticia, Nguyen, Chi Hung, Buisson, Alain, Lafanechere Laurence, Andrieux, Annie
Mar 12 2021 | FRONTIERS IN PHARMACOLOGY 12

Assembly of The Mitochondrial Complex I Assembly Complex Suggests a Regulatory Role for Deflavination, Gabriele Giachin ,Matthew Jessop ,Romain Bouverot, Samira Acajjaoui, Melissa Sandi, AnasChretien, Maria Bacia-Verloop,Luca Signor,Philippe J. Mas,Adrien Favier,Eve Borel Meneroud, Michael Hons,Darren J. Hart, Eaazhisai Kandiah, Elisabetta Boeri Erba, Alain Buisson, Gordon Leonard, Irina Gutsche; Angew.Chem. Int. Ed. 2021, 60,4689–4697

Effect of Ab Oligomers on Neuronal APP Triggers a Vicious Cycle Leading to the Propagation of Synaptic Plasticity Alterations to Healthy Neurons
Marta Rolland, Rebecca Powell, Muriel Jacquier-Sarlin, Sylvie Boisseau, Robin Reynaud-Dulaurier, Jose Martinez-Hernandez, Louise André, Eve Borel, Alain Buisson, and Fabien Lanté, The Journal of Neuroscience, July 1, 2020 • 40(27):5161–5176 • 5161

Improved optical slicing by stimulated emission depletion light sheet microscopy
JOSE MARTINEZ HERNANDEZ, ALAIN BUISSON, IRENE WANG AND JEAN-CLAUDE VIAL Vol. 11, No. 2 / 1 February 2020 / *Biomedical Optics Express*

Autophagy Is Required for Memory Formation and Reverses Age-Related Memory Decline Melissa Glatigny,1,7 Stephanie Moriceau,1,7 Manon Rivagorda,1,7 Mariana Ramos-Brossier,1,8 Anna C. Nascimbeni,2,8 Fabien Lante,3 Mary R. Shanley,4 Nadir Boudarene,1 Audrey Rousseaud,1 Allyson K. Friedman,4 Carmine Settembre,5 Nicolas Kuperwasser,6 Gerard Friedlander,2 Alain Buisson,3 Etienne Morel,2 Patrice Codogno,2,* and Franck Oury1,9,* Current Biology 29, 435–448, February 4, 2019

1. Synaptotoxicity in Alzheimer's disease involved a dysregulation of actin cytoskeleton dynamics through cofilin 1 phosphorylation (2018) Rush T., Martinez-Hernandez J., Dollmeyer M, Frandemiche ML, Borel E., Boisseau S., Jacquier-Sarlin M. and Buisson A. J. Neurosci. DOI: https://doi.org/10.1523/JNEUROSCI.1409-18.2018

2- A key function for microtubule-associated-protein 6 in activity-dependent stabilisation of actin filaments in dendritic spines (2018) Peris L, Bisbal M, Martinez-Hernandez J, Saoudi Y, Jonckheere J, Rolland M, Sebastien M, Brocard J, Denarier E, Bosc C, Guerin C, Gory-Fauré S, Deloulme JC, Lanté F, Arnal I, Buisson A, Goldberg Y, Blanchoin L, Delphin C, Andrieux A. Nat Commun. 2018 Sep 17;9(1):3775. doi: 10.1038/s41467-018-05869-z.

3. GluN2B Subunit Labeling with Fluorescent Probes and High-Resolution Live Imaging.
Perrio C, Nicole O, Buisson A., Methods Mol Biol. (2017);1677:171-183.

4. Specific alteration of Tau phosphorylation and neuronal signaling induced by the amyloid-□ oligomer A beta*56 (2017) Amar, F ; Sherman, M, Rush, T, Larson, M, Chang, L, Gotz, J, Schneider, J, Bennett, D, Buisson, A. and Lesne, S. (2017) Science Signaling May 9;10(478)

5.TRPA1 channels promote astrocytic Ca2+ hyperactivity and synaptic dysfunction mediated by oligomeric forms of amyloid-beta peptide (2017) Bosson, A; Paumier, A; Boisseau, S, Jacquier-Sarlin, M; Buisson, A ; Albrieux, M , Mol. Neurodeg, 12, 53.

6. Involvement of CRF2 signaling in enterocyte differentiation (2017Ducarouge, B; Pelissier-Rota, M, Powell, R, Buisson, A, Bonaz, B, Jacquier-Sarlin, M. (2017) World J Gastroenterol. 28;23(28):5127-5145

7. Disruption of dopaminergic transmission remodels tripartite synapse morphology and astrocytic calcium activity within substantia nigra pars reticulata. Bosson A, Boisseau S, Buisson A, Savasta M, Albrieux M. Glia. (2015) 63(4):673-83.

7. Oxygen glucose deprivation-induced astrocyte dysfunction provokes neuronal death through oxidative stress. Gouix E, Buisson A, Nieoullon A, Kerkerian-Le Goff L, Tauskela JS, Blondeau N, Pharmacol Res. (2014) 87:8-17.

8. Reciprocal disruption of neuronal signaling and Aβ production mediated by extrasynaptic NMDA receptors: a downward spiral. Rush T, Buisson A. Cell Tissue Res. (2014) May;356(2):279-86.

9. Iron overload accelerates neuronal amyloid-β production and cognitive impairment in transgenic mice model of Alzheimer's disease. Becerril-Ortega J, Bordji K, Fréret T, Rush T, Buisson A. Neurobiol Aging. 2014 Oct;35(10):2288-301.

10. Activity dependent tau protein translocation to excitatory synapse is disrupted by exposure to Amyloid β oligomers. Frandemiche ML, De Seranno S, Rush T, Borel E., Elie A., Arnal I., Lanté F., Buisson A. ,J. Neurosci. 2014,34: 6087-6094.

11. NMDA receptor dysfunction contributes to impaired brain-derived neurotrophic factor-induced facilitation of hippocampal synaptic transmission in a Tau transgenic model. Burnouf S, Martire A, Derisbourg M, Laurent C, Belarbi K, Leboucher A, Fernandez-Popoli P, Buée L, Blum D. Aging Cell. 2013 Feb;12(1):11-23.

12. Ultra-sensitive molecular MRI of cerebrovascular cell activation enables early detection of chronic central nervous system disorders. Montagne A, Gauberti M, Macrez R, Jullienne A, Briens A, Raynaud JS, Louin G, Buisson A, Haelewyn B, Docagne F, Defer G, Vivien D, Maubert E. Neuroimage. 2012 Nov 1;63(2):760-70. doi: 10.1016/j.neuroimage.2012.07.018. Epub 2012 Jul 17.

13. Interaction between aCaMKII and GluN2B controls ERK-dependent plasticity.
El Gaamouch F, Buisson A, Moustié O, Lemieux M, Labrecque S, Bontempi B, De Koninck P, Nicole O. J Neurosci. 2012 Aug 1;32(31):10767-79.

14. Confocal microscopy imaging of NR2B-containing NMDA receptors based on fluorescent ifenprodil-like conjugates. Marchand P, Becerril-Ortega J, Mony L, Bouteiller C, Paoletti P, Nicole O, Barré L, Buisson A, Perrio C.
Bioconjug Chem. 2012 Jan 18;23(1):21-6. doi: 10.1021/bc100571g. Epub 2011 Dec 13.

15. Selective impairment of some forms of synaptic plasticity by oligomeric amyloid-β peptide in the mouse hippocampus: implication of extrasynaptic NMDA receptors. Kervern M, Angeli A, Nicole O, Léveillé F, Parent B, Villette V, Buisson A, Dutar P. J Alzheimers Dis. 2012;32(1):183-96.

16. Synapses, NMDA receptor activity and neuronal Aβ production in Alzheimer's disease. Bordji K, Becerril-Ortega J, Buisson A. Rev Neurosci. 2011;22(3):285-94.. Epub 2011 May 16.

17. Activation of extrasynaptic, but not synaptic, NMDA receptors modifies amyloid precursor protein expression pattern and increases amyloid-ß production. Bordji K, Becerril-Ortega J, Nicole O, Buisson A., J Neurosci. 2010 Nov 24;30(47):15927-42. Selected by F-1000

18. Neuronal viability is controlled by a functional relation between synaptic and extrasynaptic NMDA receptors.
Léveillé F, El Gaamouch F, Gouix E, Lecocq M, Lobner D, Nicole O, Buisson A. FASEB J. 2008 Dec;22(12):4258-71.

19. NMDA receptor activation inhibits alpha-secretase and promotes neuronal amyloid-beta production. Lesné S, Ali C, Gabriel C, Croci N, MacKenzie ET, Glabe CG, Plotkine M, Marchand-Verrecchia C, Vivien D, Buisson A.
J Neurosci. 2005 Oct 12;25(41):9367-77.

20.Complement anaphylatoxin C3a is selectively protective against NMDA-induced neuronal cell death.
van Beek J, Nicole O, Ali C, Ischenko A, MacKenzie ET, Buisson A, Fontaine M.
Neuroreport. 2001 Feb 12;12(2):289-93.

21. The proteolytic activity of tissue-plasminogen activator enhances NMDA receptor-mediated signaling.
Nicole O, Docagne F, Ali C, Margaill I, Carmeliet P, MacKenzie ET, Vivien D, Buisson A.
Nat Med. 2001 Jan;7(1):59-64.

22. Ischemia-induced interleukin-6 as a potential endogenous neuroprotective cytokine against NMDA receptor-mediated excitotoxicity in the brain. Ali C, Nicole O, Docagne F, Lesne S, MacKenzie ET, Nouvelot A, Buisson A, Vivien D. J Cereb Blood Flow Metab. 2000 Jun;20(6):956-66.

22. A transforming growth factor-beta antagonist unmasks the neuroprotective role of this endogenous cytokine in excitotoxic and ischemic brain injury. Ruocco A, Nicole O, Docagne F, Ali C, Chazalviel L, Komesli S, Yablonsky F, Roussel S, MacKenzie ET, Vivien D, Buisson A. J Cereb Blood Flow Metab. 1999 Dec;19(12):1345-53.

23. Membrane-delimited modulation of NMDA currents by metabotropic glutamate receptor subtypes 1/5 in cultured mouse cortical neurons. Yu SP, Sensi SL, Canzoniero LM, Buisson A, Choi DW.
J Physiol. 1997 Mar 15;499 (Pt 3):721-32.

24. Mechanisms involved in the neuroprotective activity of a nitric oxide synthase inhibitor during focal cerebral ischemia. Buisson A, Margaill I, Callebert J, Plotkine M, Boulu RG.
J Neurochem. 1993 Aug;61(2):690-6.

42. Nitric oxide: an endogenous anticonvulsant substance. Buisson A, Lakhmeche N, Verrecchia C, Plotkine M, Boulu RG. Neuroreport. 1993 Apr;4(4):444-6.

43. Striatal protection induced by lesioning the substantia nigra of rats subjected to focal ischemia.
Buisson A, Callebert J, Mathieu E, Plotkine M, Boulu RG. J Neurochem. 1992 Sep;59(3):1153-7.

44. The neuroprotective effect of a nitric oxide inhibitor in a rat model of focal cerebral ischaemia. Buisson A, Plotkine M, Boulu RG. Br J Pharmacol. 1992 Aug;106(4):766-7.

45. Combination of horseradish peroxidase and lucifer yellow staining for selective labeling of

neurons at the electron microscopic level. Nonnotte L, Buisson A, Nagy F, Moulins M. J Histochem Cytochem. 1991 Nov; 39(11):1579-83.

46. Nigrostriatal pathway modulates striatum vulnerability to quinolinic acid.
Buisson A, Pateau V, Plotkine M, Boulu RG. Neurosci Lett. 1991 Oct 14; 131(2):257-9.

48. Lesioning the substantia nigra reduces striatal infarct volume following focal ischemia in rats.
Buisson A, Plotkine M, Boulu R. Fundam Clin Pharmacol. 1991;5(7):645-7.

PUBLICATION (BOOK CHAPTERS AND REVIEWS):

1-Serine protease inhibitors: novel therapeutic targets for stroke?
Vivien D, Buisson A. J Cereb Blood Flow Metab. 2000 May;20(5):755-64. Review.

2-Does transforming growth factor-beta (TGF-beta) act as a neuroprotective agent in cerebral ischemia?].
Docagne F, Ali C, Lesne S, Nicole O, MacKenzie ET, Buisson A, Vivien D.
J Soc Biol. 2003;197(2):145-50. Review.

SEMINAR AND CONFERENCES
Invited presentations
-During the last decade, I participated to 11 conferences as invited speaker
-Lecturer at Neuroscience School of Advance Study in San Quirico D'Orcia, Italy (July, 2012).
-PhD/HDR: member of thesis committees, examiner or reviewer for several PhD and Habilitation committees in France.

Organization of international conferences:

-I co-organized (with R. Sadoul) the Jacques Cartier conference on Alzheimer Disease in Montréal (2011) and in Lyon (2012).

CURRENT AND PENDING GRANT SUPPORT:

Contract ANR (2014-16) Neuroscience: Project PyK2AD (150 000 €).
Contract ANR (2014-16) AO Neuroscience: Project Speedy (150 000 €).
FUI, Fonds d'Urbanisation Interministeriel (2015-2018). The objective of this project is to characterize actin cytoskeleton in dendritic spine to evaluate the therapeutic potential of inhibition of the Lim Kinase in Alzheimer disease. Some of the techniques develop in this project will be useful for the current application (200 000€).
Contract ANR (2014-16) AO Nanotechniology and Nanosystem: Project Nanoscolas (100 000€).
Contract AGIR University Grenoble 1 (2013): Integration of a new assistant professor (15 000€)
Contract from the Region Rhône Alpes (2013-2016) for the recruitment of Ph.D student (99 000€)
Contract ANR (2011-14): AO «Alzheimer disease » Project MALAAD (200 000 €).
Fondation Neurodis : Grant for the integration in GIN 2010-13 (400 000 euro).
Région Rhônes Alpes (2010): Equipment acquisition (70 000€)
Program NeuroLaser Région Basse Normandie (2008-10) for the development of new tools for cell imaging (120 000 €).
SEMINAR AND CONFERENCES
Invited presentations
-During the last decade, I participated to 12 conferences as invited speaker
-Lecturer at Neuroscience School of Advance Study in San Quirico D'Orcia, Italy (July, 2012).
-Invited lecture at Marquette University, Wisconsin USA, October 18th 2015
-PhD/HDR: member of thesis committees, examiner or reviewer for several PhD and Habilitation committees in France.