Curriculum Vitae

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Date of birth: February 3rd 1970
Place of birth: Harfleur (France)
Nationality: French
Marital status: Married, one son.

RESEARCH GOALS

My lab is investigating the molecular and cellular mechanisms regulating learning and Memory in the cerebellum, with a focus on stable acquisition of motor skills and abilities. Our experimental approaches are based on a combination of OMICs-based screening with electrophysiology, high-resolution live cell imaging and gene expression alterations. Our goal is to discover the cellular and molecular processes controlling the transformation of repeated experiences into life-time-lasting memories. We expect that a better understanding of the mechanisms enabling permanent skill acquisition will make it possible to pharmalogically accelerate the implantation or rehabilitation of these skills. Certain socially valued skills (surgeon, pilots, athletes..) currently require extensive and repeated costly training. Pharmacologically enhanced training would shorten (re)training, reducing cost and increasing the productive life time of individuals. Furthermore, this strategy may also enable rehabilitation after injury, especially in elderly patients lacking the stamina for repeated training and would have a real impact on lives and society.

APPOINTMENTS AND POSITIONS

2018-present	Team Leader, Lab Synaptic Molecules of Memory Persistence, Centre for Brain Science, RIKEN
2014-2018	Team Leader, Lab Synaptic Molecules of Memory Persistence, Brain Science Institute, RIKEN
2008-2014	Unit Leader, Launey Research Unit, Brain Science Institute, RIKEN.

2009- 2013	Adjunct Assistant Professor, Waseda University, Tokyo, Japan
2003-2008	Research Scientist, Laboratory for Memory and Learning (with M.Ito), Brain Science Institute, RIKEN, Japan.
1998-2003	Post-doctoral Research Scientist, Laboratory for Memory and Learning (with M.Ito), Brain Science Institute, RIKEN, Japan.
1994-1998	PhD student, Unité de neurocybernétique cellulaire UPR 9041, C.N.R.S, Marseille, France.
1996-1997	Research Assistant at the Institute of Physiology (with H.R. Lüscher), University of Bern (Switzerland).
1994	Research Assistant at Laboratoire de Neuroscience Fonctionnelle, C.N.R.S. (director: J-P. Roll). "Astronauts Motor Illusions during Spaceflight" (CNRS/CNES).

EDUCATION AND TRAINING

1991-1998	University of MARSEILLE (France)
1994-1998	Neuroscience PhD thesis from Aix-Marseille University –with highest distinction. Host laboratory: UPR 9041, C.N.R.S. Supervisor: J-P. Gueritaud. Title: "Properties of Excitatory Amino-acid receptors expressed by developing rat cranial motoneurons, in organotypique brainstem culture"
1994	"DEA de Neuroscience" - Master in Neurosciences - with distinction
1991-1993	"Licence & maitrise de Neurosciences" - with distinction
1989-1991	University of Rouen (France): DEUG (first University grade) -with distinction

SCIENCE COMMUNITY SERVICE

Manuscript Review for : Science, J.Biol.Chem., J. Neurosci, J. Neurosci. Meth., Neurophysiol., Biomaterials, Front. Cell. Neurosci., Front. Mol. Neurosci.
Book proposal and book chapter review for Spinger-Verlag.

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES:

American Association for the Advancement of Science, Society for Neuroscience, Japanese Neuroscience Society, Société des Neurosciences, Physiological Society of Japan

RESEARCH ARTICLES.

- Iannella N., Launey T. (2017) Modulating STDP balance impacts the dendritic mosaic. **Front. Comp. Neurosci.** 11, 42 (corresponding author)
- Chimura T., Launey T., Yoshida N. (2015) Calpain-Mediated Degradation of Drebrin by Excitotoxicity In vitro and In vivo. **PLoS One**. 10(4):e0125119
- Iannella N., Launey T., Abbott D., Tanaka S. (2014) A nonlinear cable framework for bidirectional synaptic plasticity. **PLoSOne** 9(8):e102601.

- Kratz A*., Beguin P*, Kaneko M., Chimura T., Suzuki A.M., Matsunaga, A., Kato S., Bertin N., Lassmann T., Vigot R., Carninci P., Plessy C., Launey T. (2014) Digital expression profiling of the compartmentalized translatome of Purkinje neurons. ***Genome Research*** 24(8):1396-410.
- Béguin P., Nagashima K., Mahalakshmi R.N., Vigot R., Matsunaga A., Miki T., Ng M.Y., Ng Y.J.A, Lim C.H.,Tay H.S., Hwang L-A, Firsov D., Tang B.L., Inagaki N., Mori Y., Seino S., Launey T. #, and Hunziker W.# (# co-corresponding authors**)** (2014). BARP associates with voltage-gated calcium channel β-subunits to regulate Ca2+-channel activity and Ca2+-evoked exocytosis**. *Journal of Cell Biology*** 205(2):233-49.
- Sur S., Guler M.O., Webber M.J., Pashuck E.T., Ito M., Stupp S.I., Launey T. (2014) Synergistic regulation of cerebellar Purkinje neuron development by laminin epitopes and collagen on an artificial hybrid matrix construct. ***Biomater. Sci.*** 2(6):903-914.
- Sur S., Pashuck E. T., Guler, M. O., Ito, M., Stupp, S. I., & Launey, T. (2012). A hybrid nanofiber matrix to control the survival and maturation of brain neurons. **Biomaterials**, *33*(2), 545-55.
- Kulagina I. B., Launey T., Kukushka V. I., Korogod S. M. (2012) Conversion of Electrical and Synaptic Actions into Impulse Discharge Patterns in Purkinje Neurons with Active Dendrites: A Simulation Study. **Neurophysiology**, 44(3), 187-200.
- Chimura T., Launey T., Ito M. (2011) Evolutionarily conserved bias of amino-acid usage refines the definition of PDZ-binding motif. **BMC Genomics.** 12(1):300.
- Iannella N. I., Launey T., Tanaka S. (2010) Spike timing-dependent plasticity as the origin of the formation of clustered synaptic efficacy engrams **Front. Comp. Neurosci**. pii: 21
- Perron A., MutoH H., Launey T., Knöpfel T. (2009) Red-Shifted Voltage Sensitive Fluorescent Proteins **Chemistry & Biology** 16: 1268-1277.
- Bannai H., Levi S., Schweizer C., Inoue T., Launey T., Racine V. Sibarita JB., Mikoshiba K., Triller A. (2009) Activity-dependent tuning of inhibitory neurotransmission based on GABAR diffusion dynamics. ***Neuron.*** 62(5):670-82.
- Launey T., (2007) A computational approach to the study of AMPA receptor declustering at Purkinje cell synapses. **Arch. Ital. Biol.,** 145: 299-310.
- Launey T., Endo S., Sakai R., Harano J., and Ito M. (2004). Protein phosphatase 2A inhibition induces cerebellar long-term depression and declustering of synaptic AMPA receptor. **Proc.Natl.Acad.Sci.U.S.A** 101, 676-681.
- Planel E., Miyasaka T., Launey T., Chui D.H., Tanemura K., Sato S., Murayama O., Ishiguro K., Tatebayashi Y., and Takashima A. (2004). Alterations in glucose metabolism induce hypothermia leading to tau hyperphosphorylation through differential inhibition of kinase and phosphatase activities: implications for Alzheimer's disease. **J. Neurosci.** 24, 2401-2411.
- Endo S., Launey T. (2003) Nitric oxide activates extracellular signal-regulated kinase 1/2 and enhances declustering of ionotropic glutamate receptor subunit 2/3 in rat cerebellar Purkinje cells. **Neurosci. Lett.** 350(2), 122-6.
- Endo S., Launey T., and Ito M. (2003) ERKs regulate PKC-dependent synaptic depression and declustering of glutamate receptors in cerebellar Purkinje cells. **Neuropharmacology.** 45(6), 863-72.
- Hirai H., Launey T., Mikawa S., Yanagihara D., Kasaura T., Miyamoto A., Yuzaki M. (2003) Antibody against a putative ligand binding site reveals the delta2 glutamate receptor function. **Nature Neuroscience.** 6(8), 869-76.
- Sallese M., Salvatore L., D'Urbano E., Sala G., Storto M., Launey T., Nicoletti F., Knopfel T., and De Blasi A. (2000) The G-protein-coupled receptor kinase GRK4 mediates homologous desensitization of metabotropic glutamate receptor 1. **FASEB J.** 14 (15), 2569-2580
- Matsuda S., Launey T., Mikawa S., and Hirai H. (2000) Disruption of AMPA receptor GluR2 clusters following long-term depression induction in cerebellar Purkinje neurons. **EMBO J.** 19 (12), 2765-2774

- Hirai H, and Launey T. (2000) The regulatory connection between the activity of granule cell NMDA receptors and dendritic differentiation of cerebellar Purkinje cells. **J.Neurosci.** 20 (14), 5217-5224
- Launey T., Ivanov A., Kapus G., Ferrand N., Tarnawa I., Gueritaud J-P. (1999) Excitatory amino acids and synaptic transmission in embryonic rat brainstem motoneurons in organotypic culture. **Eur. J. Neurosci.** (4), 1324-34
- Ivanov A., Launey T., Gueritaud J-P, Korogod S.M. (1998) Electrical properties and morphology of motoneurons developing in dissociated unpurified co-culture of the embryonic rat brainstem, spinal cord and hindlimb tissues. **Neurophysiol.** 30(4-5), 370-5
- Larkum M.E., Launey T., Dityatev A., Luscher H-R. (1998) Integration of excitatory postsynaptic potentials in dendrites of motoneurons of rat spinal cord slice cultures. **J. Neurophysiol** 80(2), 924-35
- Launey T., Ivanov A., Ferrand N., Gueritaud J-P. (1998) Developing rat brainstem motoneurones in organotypic culture express calcium permeable AMPA-gated receptors. **Brain Res.** 781(1-2), 148-58
- Launey T., Eustache I., Ferrand N. and Gueritaud JP. (1997) Synaptic inputs on rat brainstem motoneurones in organotypic slice culture. **Neuroreport** 8(15), 3287-91
- Gueritaud JP., Eustache I., Launey T. and Seyfritz N. (1996) Innervation of rat brainstem motoneurones in organotypic culture from a co-cultured sensory explant. **Neurosci Lett.** 207(2), 85-8

SELECTED INVITED LECTURES / SYMPOSIA

- "Dendrite Purkinje neuron translatome" 40th Annual Meeting of the Japan Neuroscience Society, 2017, July 20-23 Chiba, (Japan).

- "Local Translation Dynamics during Synaptic Plasticity", 8th FAOPS Congress, Nov 22-25, Bangkok (Thailand)

- "Purkinje neuron translatome at sub-cellular resolution." 37th Annual Meeting of the Japan Neuroscience Society, 2014 Sept 11-13, Yokohama (Japan).

- " Toward a complete Purkinje neuron translatome with subcellular resolution" Annual Meeting of the Society for Neuroscience 2013 Nov 9-13, San Diego (U.S.A)

- "High-Throughput RNA profiling of Purkinje cell dendrites during memory formation and neuronal stress" The 34st Annual meeting of the Molecular Biology Society of Japan (MBSJ) 2011 Dec 13-16, Yokohama (Japan).

- "High-Throughput RNA profiling of Purkinje cell dendrites during memory formation and neuronal stress". Cold Spring Harbor Asia Conference: Bioinformatics of Human and Animal Genomics. 2011 Nov 14-18, Suzhou (China).

- "A self-assembling nanofiber matrix to support the 3D growth of brain neurons" 3rd International Symposium on Nanomedicine (ISNM2009-2) and Molecular Imaging and System Biology, 2009 Nov 04-06, Okazaki (Japan).

- "Shape matters: Ultrastructure of Purkinje cell spines shapes molecular signal integration". Conference of the International Center for Molecular Physiology. 2008 Nov 16-18, Dniepropetrovsk (Ukraine)

- "Ultrastructural analysis of Purkinje cell spines reveals a highly asymmetrical organization of the PSD and ER, having profound influence on molecular signal processing." 30th Annual Meeting of the Japan Neuroscience Society, 2007 Sept 10-12, Yokohama (Japan).

- "Spatio-temporally realistic simulation of AMPA receptor trafficking within recornsctructed cerebellar Purkinje dendrites" Society for Neurosciences (SfN) meeting, 2007 Nov 3-7, San –Diego (U.S.A)

- "An integrated computational approach to cerebellar synaptic plasticity", Seminars of the Physiologishes Instituet, Department of Physiology, University of Bern. 2006 July 03rd, Switzerland

- "A network within the network: Structure of the spine's molecular network underlying plasticity in Purkinje cell." Conference Functional Architecture of the brain: From dendrites to networks. CNRS, 2006 May 4-5, Marseille (France).

- "Protein Phosphatase as a link between nitric oxide and MAPK pathways in cerebellar LTD?" 4th Forum of European Neuroscience (FENS). 2004 July 10-14, Lisbon (Portugal). Symposium "Cerebellar LTD, not just depressing".

- Launey T, Ito M. "Cerebellar synaptic plasticity: a jungle of molecular interactions." 6th JST symposium, Olympic Youth Memorial. 2002 Nov 24-26,. Tokyo