

BIOGRAPHICAL SKETCH

NAME LAMBOLEZ, Bertrand	POSITION TITLE Group leader, Research Director at National Institute for Health and Medical Research (INSERM, France)
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EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
University Paris VI	Master	09/85	Neuroscience
University Paris VI	PhD	11/91	Neuroscience
University Paris VI	Habilitation	11/01	Neuroscience

Achievements

Bertrand Lambolez was trained as a molecular biologist and electrophysiologist and invented single cell RT-PCR after patch-clamp (Neuron 1992). He has made important contributions to the study of glutamate receptors (Neuron 1992, 1994, 1995; PNAS 1996) and recently showed that GluD channels are gated by mGlu1 (EMBO Rep 2014, Mol Psychiatry 2017). He has established expertise in cortical cell-types and circuits and co-heads the team “Cortical Network and Neurovascular Coupling” (17 persons). The team has developed a cutting-edge combination of molecular biology, viral transfer, slice electrophysiology, optogenetics and imaging. This has led to important contributions to the understanding of the functional architecture of cortical networks (J Neurosci 1997; PNAS 2000) and their modulation (J Neurosci 2002; Cereb Cortex 2007, 2010, 2016). Bertrand Lambolez received the International Society for Neurochemistry Young Scientist Award 1999 for the invention of single cell PCR and contribution to the field of glutamatergic transmission.

Positions, Honors and commitments

1986-1991 PhD fellow. Institut Alfred Fessard, CNRS UPR 2212, Gif/Yvette.
 1992 Recruited as INSERM staff scientist CR2
 1992-1995 Staff scientist at Institut Alfred Fessard, CNRS UPR 2212, Gif/Yvette
 1996 INSERM staff scientist CR1 position
 1995-2000 Staff scientist at Laboratory of Neurobiology, UMR CNRS 7637, ESPCI Paris
 2000-2004 Group leader «Interneurons of the Cerebral Cortex», at the Laboratory of Neurobiology, UMR CNRS 7637, ESPCI Paris
 2005 Recruited as INSERM research director DR2
 2005-2008 Group leader «Neuromodulation and Dynamics of Second Messengers», at the laboratory Neurobiology of Adaptive Processes, UMR 7102 CNRS, University Paris 6
 2008-present Group leader «Cortical Network and Neurovascular Coupling», at the laboratory Neuroscience Paris-Seine, UMR 8246 CNRS, University Paris 6

- International Society for Neurochemistry Young Scientist award 1999

- Associate Editor: J Neuroscience Research since 2005
- Board of CNRS section 25 national standing committee, 2008-2016
- Coordinator of the ENP “Network for viral transfer”, 2009-2013
- Co-organizer/instructor EMBO course: Single cell RT-PCR after patch-clamp (1993)
Co-organizer/instructor EMBO course: Patch-clamp, imaging, PCR in single cells (1996)
Co-organizer/instructor of IBPS Summer School on Optical Biosensors (2017)

90 publications, 5869 citations, H-index 33 (Google Scholar, oct 2017)

Selected publications excluding reviews

Lambolez B, Audinat E, Bochet P, Crépel F, Rossier J. AMPA receptor subunits expressed by single Purkinje cells. *Neuron*. 1992 Aug;9(2):247-58.

Bochet P, Audinat E, **Lambolez B**, Crépel F, Rossier J, Iino M, Tsuzuki K, Ozawa S. Subunit composition at the single-cell level explains functional properties of a glutamate-gated channel. *Neuron*. 1994 Feb;12(2):383-8.

Ruano D, **Lambolez B**, Rossier J, Paternain AV, Lerma J. Kainate receptor subunits expressed in single cultured hippocampal neurons: molecular and functional variants by RNA editing. *Neuron*. 1995 May;14(5):1009-17.

Lambolez B, Ropert N, Perrais D, Rossier J, Hestrin S. Correlation between kinetics and RNA splicing of alpha-amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptors in neocortical neurons. *Proc Natl Acad Sci U S A*. 1996 Mar 5;93(5):1797-802.

Cauli B, Audinat E, **Lambolez B**, Angulo MC, Ropert N, Tsuzuki K, Hestrin S, Rossier J. Molecular and physiological diversity of cortical nonpyramidal cells. *J Neurosci*. 1997 May 15;17(10):3894-906.

Angulo MC, **Lambolez B**, Audinat E, Hestrin S, Rossier J. Subunit composition, kinetic, and permeation properties of AMPA receptors in single neocortical nonpyramidal cells. *J Neurosci*. 1997 Sep 1;17(17):6685-96.

Cauli B, Porter JT, Tsuzuki K, **Lambolez B**, Rossier J, Quenet B, Audinat E. Classification of fusiform neocortical interneurons based on unsupervised clustering. *Proc Natl Acad Sci U S A*. 2000 May 23;97(11):6144-9.

Tsuzuki K, **Lambolez B**, Rossier J, Ozawa S. Absolute quantification of AMPA receptor subunit mRNAs in single hippocampal neurons. *J Neurochem*. 2001 Jun;77(6):1650-9.

Férézou I, Cauli B, Hill EL, Rossier J, Hamel E, **Lambolez B**. 5-HT₃ receptors mediate serotonergic fast synaptic excitation of neocortical vasoactive intestinal peptide/cholecystokinin interneurons. *J Neurosci*. 2002 Sep 1;22(17):7389-97.

Gallopín T, Geoffroy H, Rossier J, **Lambolez B**. Cortical sources of CRF, NKB, and CCK and their effects on pyramidal cells in the neocortex. *Cereb Cortex*. 2006 Oct;16(10):1440-52.

Tricoire L, Tsuzuki K, Courjean O, Gibelin N, Bourout G, Rossier J, **Lambolez B**. Calcium dependence of aequorin bioluminescence dissected by random mutagenesis. *Proc Natl Acad Sci U S A*. 2006 Jun 20;103(25):9500-5.

Férézou I, Hill EL, Cauli B, Gibelin N, Kaneko T, Rossier J, **Lambolez B**. Extensive overlap of mu-opioid and nicotinic sensitivity in cortical interneurons. *Cereb Cortex*. 2007 Aug;17(8):1948-57.

Hu E, Demmou L, Cauli B, Gallopin T, Geoffroy H, Harris-Warrick RM, Paupardin-Tritsch D, **Lambolez B***, Vincent P*, Hepp R*. VIP, CRF, and PACAP act at distinct receptors to elicit different cAMP/PKA dynamics in the neocortex. *Cereb Cortex*. 2011 Mar;21(3):708-18.

Szabo A, Somogyi J, Cauli B, **Lambolez B**, Somogyi P, Lamsa KP. Calcium-permeable AMPA receptors provide a common mechanism for LTP in glutamatergic synapses of distinct hippocampal interneuron types. *J Neurosci*. 2012 May 9;32(19):6511-6.

Ady V, Perroy J, Tricoire L, Piochon C, Dadak S, Chen X, Dusart I, Fagni L, **Lambolez B**, Levenes C. Type 1 metabotropic glutamate receptors (mGlu1) trigger the gating of GluD2 delta glutamate receptors. *EMBO Rep*. 2014 Jan;15(1):103-9.

Bonnot A, Guiot E, Hepp R, Cavellini L, Tricoire L, **Lambolez B**. Single-fluorophore biosensors based on conformation-sensitive GFP variants. *FASEB J*. 2014 Mar;28(3):1375-85.

Hepp R, Hay YA, Aguado C, Lujan R, Dauphinot L, Potier MC, Nomura S, Poirel O, El Mestikawy S, **Lambolez B***, Tricoire L*. Glutamate receptors of the delta family are widely expressed in the adult brain. *Brain Struct Funct*. 2015 Sep;220(5):2797-815.

Hay YA, **Lambolez B***, Tricoire L*. Nicotinic Transmission onto Layer 6 Cortical Neurons Relies on Synaptic Activation of Non- $\alpha 7$ Receptors. *Cereb Cortex*. 2016 Jun;26(6):2549-2562.

Benamer N, Marti F, Lujan R, Hepp R, Aubier TG, Dupin AAM, Frébourg G, Pons S, Maskos U, Faure P, Hay YA, **Lambolez B***, Tricoire L*. GluD1, linked to schizophrenia, controls the burst firing of dopamine neurons. *Mol Psychiatry*. 2017 Jul 11. [Epub ahead of print]

Recent grant support

2012-2015 Coordinator ARN DELTAplane, GluRdelta (GluD) orphan receptor

2016-2018 PI partner ANR P2N2, proteases and the perineuronal net