

## Curriculum vitae- Fekrije SELIMI



PhD Neurosciences, Directrice de recherche 2<sup>ème</sup> classe CNRS  
Citizenship: French  
Born 6 October 1974  
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### Diploma

2013 : Habilitation à Diriger les Recherches, Université Pierre et Marie Curie  
2000 : PhD Neurosciences (félicitations du jury), Université Paris VI  
1996 : Master Neurosciences, Université Paris VI  
1996 : Magistère de Biologie-Biochimie, Ecole Normale Supérieure Paris  
1993: Admission École Normale Supérieure, Paris.

### Awards

2016: ERC consolidator grant  
2015 : Equipe labellisée « Fondation pour la Recherche Médicale”  
2011: ATIP-AVENIR  
2010: Boehringer Ingelheim FENS Research Award; Prime d'Excellence Scientifique CNRS  
2007: Winning team “The Game” CNS UCSB-NRI Young Neuroscientists’ Workshop  
2001: Financement de post-doctorat Human Frontier Science Program (avait aussi obtenu EMBO).  
2000: Financement de post-doctorat Fondation Singer-Polignac  
1997: Bourse de thèse du Ministère de l'Éducation et de la Recherche

### Research Experience

10/2014- Present: **Research Director class 2 CNRS**  
01/2011- Present: **Team Leader** “*Régulation Moléculaire de la Synaptogenèse chez la Souris*”  
CIRB, Collège de France, UMR7241, U1050, Paris, France.  
04/2007-12/2010: **CNRS CR2, puis CR1** « *Développement du réseau olivo-cérébelleux* »  
Lab. du Dr. J. Mariani, UPMC, CNRS, UMR7102, Paris, France.  
04/2001–04/2007: **Post-doctoral fellow (HFSP)** “*Analyse de la composition de synapses spécifiques in vivo* »  
Lab. of Pr. Heintz, The Rockefeller University, HHMI, New York, USA.  
09/1996-04/2001: **PhD thesis** *Etude des mécanismes de la mort neuronale chez la souris mutante Lurcher*  
Lab. of Dr. Jean Mariani, CNRS-UMR7624, Université Paris VI, France.

### Supervision

#### PhDs

Vanessa Lanoue, defended May 2012, currently Micro Imaging Facility Head at the Victor Chang Cardiac Research Institute, Australie;  
Keerthana Iyer, defended September 2015, currently ALBA-FENS Diversity Network;  
Ines Gonzalez-Calvo, defended September 2018, currently postdoctoral fellow;  
Maxime Veleanu, defended September 2020; currently postdoctoral fellow;  
Ongoing: Shayan Moghimi, Ecole des Neurosciences de Paris International PhD program; Maëla Paul, MESRI fellowship, Sorbonne Université; Beetsi Urrieta-Chavez, MESRI fellowship, Sorbonne Université

#### Postdoctoral fellows

2010-2015 : Alessia Usardi, currently Kyowa Kirin International  
2011-2017 : Séverine Sigoillot, currently research Engineer CDI Collège de France ;  
2016-2018 : Anouar Khayachi, currently postdoctoral fellow (Canada);  
Ongoing: Célia Bosso-Lefèvre; Francisco Urrea-Quiroz

### Grants

2022-2023 : INCa (PI Selimi)  
2021-2022: Q-life Interdisciplinary grant (coordinator: S. Dieudonné)  
2017-2022: ERC consolidator grant SynID (PI)  
2016-2019: Agence Nationale de la Recherche (coordinator: P. Isope)  
2015-2017: Equipe labellisée Fondation pour la Recherche Médicale  
2014-2017: Agence Nationale de la Recherche (coordinator : F. Selimi)  
2014- 2016: Idex PSL\* (coordinator F. Selimi)

## Curriculum vitae- Fekrije SELIMI

2014: Fondation Jérôme Lejeune  
2011-2016: ATIP-AVENIR

### Member of Scientific Societies

French Cerebellum Club (current President and founding member)  
American Society for Neuroscience  
Société Française des Neurosciences  
Association Femmes & Sciences  
ALBA network toward diversity and equity in brain sciences

### Editorial activities

Board member *Journal of Tokyo Women's Medical University*;  
Review Editor *Frontiers in Molecular Neuroscience*;  
Reviewer for international journals (*Science, Neuron, eLife, Nature communications, Science reports, etc...*).

### Board and Jury membership; Institutional Life

President France Cerebellum Club (founding member)  
Scientific Board ATEurope foundation  
Board of Doctoral School ED3C, Sorbonne université  
Jury La Caixa Foundation  
Jury COMESP (recruitments for Institut Pasteur)  
Jury Contrats Interface pour Hospitaliers INSERM  
Reviewer for financing agencies (Italian telethon, Flanders Research, ANR ...)  
Reviewer for PhD and HDR (2-3 par an)  
Member of Mid-thesis committees (2-3 par an)  
Steering committee labex Memolife (IBENS, CIRB, ESPCI)  
Steering committee (and founding member) Animal Facility CIRB-Collège de France

### Teaching and scientific outreach

*Lectures in masters*: Master 1 Genetics, Univ. Paris Diderot; Master Imalis Ecole Normale Supérieure Paris; Master 2 BIP, Sorbonne Université Paris.

*Lectures for courses on animal experimentation*

*Lectures for international PhD programs*

2018 : PhD School in Biomedical Neurosciences, University of Pavia (Italy).

2017 : Erasmus week Univ Paris 5/7 and DHU PROTECT with the Master in Genetics and Genomics of the Universitat de Barcelona.

2013 : EU FP7 ITN EXTRABRAIN Research & Training Network (France).

2012 : Neuroscience PhD program, Torino (Italy).

2011 : Ecole des Neurosciences de Paris PhD program (France).

2011 : SFN workshop « BACs, TRAPs, and Targeted Mutations: Revealing Secrets of the Mammalian Brain Using Advanced Genetic Approaches », Washington (USA).

2006 : "Dissecting brain complexity", 55<sup>th</sup> Advanced Course on Molecular Neurology and Neuropathology", Wellcome Trust Genome Campus, Hixton (UK).

Participation to outreach programs : *Fête de la Science*, « *apprentis-chercheurs* » (L'arbre des connaissances) and « *Declics* » (Fondation Schlumberger pour l'Education et la Recherche)

*Outreach journals*: La Recherche 31 Aout 2017 En quête du code moléculaire des synapses

### Organization of Meetings

2022 Co-organizer "Specifying neuronal connectivity across species"/ FENS meeting, Paris

2019 Co-organizer "France Cerebellum Club 2nd meeting"/ 50 participants / Collège de France, Paris

2018 Co-organizer "Synapse Diversity and Complexity"/ 20 participants / Fondation des Treilles, France

2018 Co-organizer "France Cerebellum Club Kick-off meeting"/ 50 participants / Collège de France, Paris

2014 Co-organizer "From Synapses to Psychiatric Disorders", 150 participants/Collège de France, Paris

2013 Organizer "Cerebellar Afternoon"/ 50 participants / Collège de France, Paris

2013 Co-organizer "Synapse Formation: Transsynaptic mechanisms"/ Society For Neuroscience

meeting 2013, San Diego, USA

2011-2018 Organizer: réunions scientifiques mensuelles internes du CIRB

### Invited lectures at international conferences (selected)

2020: FENS meeting; CAJAL club; Qlife

2019: Gordon Research Conference “Cerebellum”, Switzerland.

2018: Mini-symposium « Cell Adhesion Molecules at the Intersection of Cell Type Identity and Neural Circuit Connectivity », Society for Neuroscience Meeting, San Diego, USA

2017: First Surfaceome meeting, Anzola (Italy).

2015: 12<sup>ème</sup> Colloque Société des Neurosciences, Montpellier (France).

2014: Symposium « Development, Maintenance and Physiology of Neural Circuits », Paris (France) ; symposium “From Synapses to Psychiatric Disorders”, Paris (France).

2013: Society For Neuroscience meeting, San Diego (USA); European Synapse Meeting, Bordeaux.

2011: Society For Neuroscience workshop, Washington (USA).

2010: Federation of European Neuroscience Societies forum, Amsterdam (Netherlands).

2008: Integrative approaches to brain complexity, Joint CSHL/Wellcome Trust meeting, Hixton (UK).

### Publications

#### Original articles

Veleanu M, Urrieta-Chávez B, Sigoillot SM, Paul MA, Usardi A, Iyer K, Delagrance M, Doyle JP, Heintz N, Bécamel C, **Selimi F**. Transient molecular changes and lasting synaptic effects in the cerebellum of the neonatal phencyclidine mouse model of schizophrenia.

**PNAS** (2022) 119(21):e2122544119. doi: 10.1073/pnas.2122544119.

González-Calvo I, Iyer K, Carquin M, Khayachi A, Giuliani FA, Sigoillot SM, Vincent J, Séveno M, Veleanu M, Tahraoui S, Albert M, Vigy O, Nadjar A, Dumoulin A, Triller A, Bessereau JL, Rondi-Reig L, Isope P, **Selimi F**. Sushi Domain-containing Protein 4 controls Synaptic Plasticity and Motor Learning.

**eLife** (2021) 10:e65712. doi: 10.7554/eLife.65712.

Gonzalez-Calvo I, **Selimi F**. Expression and role of Galectin-3 in the postnatal development of the cerebellum.

**BioRxiv** (2018) doi: <https://doi.org/10.1101/364760>

Chaumette B, Kebir O, Pouch J, Ducos B, **Selimi F**; ICAAR study group, Gaillard R, Krebs MO. Longitudinal Analyses of Blood Transcriptome During Conversion to Psychosis.

**Schizophr Bull.** (2018) doi: 10.1093/schbul/sby009.

Shihavuddin A, Basu S, Rexhepaj E, Delestro F, Menezes N, Sigoillot SM, Del Nery E, **Selimi F**, Spassky N, Genovesio A. Smooth 2D manifold extraction from 3D image stack.

**Nat Commun.** (2017) 8:15554.

Usardi A, Iyer K, Sigoillot SM, Dusonchet A., **Selimi F**. The immunoglobulin-like superfamily member IGSF3 is a developmentally regulated protein that controls neuronal morphogenesis.

**Dev Neurobiol.** (2016) doi: 10.1002/dneu.22412.

Sigoillot S.M., Iyer K., Binda F., González-Calvo I., Talleur M., Vodjdani G., Isope P., **Selimi F**. The Secreted Protein C1QL1 and Its Receptor BAI3 Control the Synaptic Connectivity of Excitatory Inputs Converging on Cerebellar Purkinje Cells.

**Cell Reports** (2015) pii: S2211-1247(15)00059-5.

Proville R., Spolidoro M., Guyon N., **Selimi F.**, Isope P., Popa D., Léna C. Interaction of sensory, motor and cerebellar cortices in the control of voluntary movements.

**Nat Neurosci.** (2014) 17(9):1233-9.

Chaumont J., Guyon N., Valera A., Dugué G.P., Popa D., Marcaggi P., Gautheron V., Reibel-Foisset S., Dieudonné S., Stephan A., Barrot M., Cassel J.C., Dupont J.L., Doussau F., Poulain B., **Selimi F.\***, Léna C.\*, Isope P.\* Clusters of cerebellar Purkinje cells control their afferent climbing fiber discharge.

**Proc. Natl. Acad. Sci. USA**, (2013) 110(40):16223-16228. \*equal contribution.

Lanoué V., Usardi A., Sigoillot S.M., Talleur M., Iyer K., Mariani J., Isope P., Vodjdani G., Heintz N., **Selimi F**. The adhesion-GPCR BAI3, a gene linked to psychiatric disorders, regulates dendrite morphogenesis in neurons.

**Molecular Psychiatry** (2013) 18(8):943-50.

Heller E.A., Zhang W., **Selimi F.**, Earnheart J.C., Slimak M., Santos-Torres J., Ibanez-Tallon I., Aoki C., Chait B.T., Heintz N. The biochemical anatomy of cortical inhibitory synapses.

**PLoS One**, (2012) vol. 7, no.6, e39572.

- Selimi F.**, Cristea I.M., Heller E., Chait B.T., Heintz N. Proteomic studies of a single CNS synapse type: specific regulatory components of the parallel fiber/Purkinje cell synapse. **PloS Biology** (2009) 7(4): e83.
- Zanjani S. H., **Selimi, F.**, Vogel, M.W., Haeberlé A.-M., Boeuf, J., Mariani J., and Bailly Y. J. Survival of interneurons and of parallel fiber synapses in a cerebellar cortex deprived of Purkinje cells: studies in the double mutant mouse *Grid2<sup>L6/+</sup>;Bax<sup>-/-</sup>*. **J. Comp. Neurol.** 497(4):622-35 (2006).
- Lalonde R., Hayzoun K., **Selimi F.**, Mariani J. and Strazielle C. Motor coordination in mice with hotfoot, Lurcher and double mutations of the *Grid2* gene encoding the delta-2 excitatory amino acid receptor. **Physiology and Behavior** 80:333-339 (2003).
- Selimi F.**, Lohof A.M., Heitz S., Lalouette A., Jarvis C.I., Bailly Y. and Mariani J. Lurcher GRID2 induced death and depolarization can be dissociated in cerebellar Purkinje cells. **Neuron** 37(5):813-9 (2003).
- Yue Z., Horton A., Bravin M., DeJager P.L., **Selimi F.**, and Heintz N. A novel protein complex linking the d2 glutamate receptor and autophagy: implications for neurodegeneration in Lurcher mice. **Neuron** 35: 921-933 (2002).
- Selimi F.**, Campana A., Weitzman J., Vogel M.W. and Mariani J. Bax and p53 are differentially involved in the regulation of caspase-3 expression and activation during neurodegeneration in Lurcher mice. **C R Acad Sci III** 323: 967-973 (2000).
- Selimi F.**, Vogel M.W. and Mariani J. Bax inactivation in Lurcher mutants rescues cerebellar granule cells, but not Purkinje cells nor inferior olivary neurons. **Journal of Neuroscience** 20: 5339-5345 (2000).
- Selimi F.**, Doughty m.L., Delhaye-Bouchaud N. and Mariani J. Target-related and intrinsic neuronal death in Lurcher mutant mice involve different apoptotic pathways, but are both mediated by caspase-3 activation. **Journal of Neuroscience** 20: 992-1000 (2000).
- Doughty M.L., Lohof A., **Selimi F.**, Delhaye-Bouchaud N. and Mariani J. Afferent-target cell interactions in the cerebellum: negative effect of granule cells on Purkinje cell development in Lurcher mice. **Journal of Neuroscience** 19: 3448-3456 (1999).
- Faucheux B.A., Hirsch E.C., Villares J., **Selimi F.**, Mouatt-Prigent A., Javoy-Agid F., Hauw J.J. and Agid Y. Distribution of 125I-Ferrotransferrin Binding Sites in the Mesencephalon of Control Subjects and Patients with Parkinson's Disease. **Journal of Neurochemistry** 60: 2338-2341 (1993).
- Reviews and others*
- González-Calvo I, Cizeron M, Bessereau JL, **Selimi F.** Synapse Formation and Function Across Species: Ancient Roles for CCP, CUB and TSP-1 Structural Domains. **Frontiers in Neuroscience** 16:866444. doi: 10.3389/fnins.2022.866444 (2022).
- Sigoillot SM, Monk KR, Piao X, **Selimi F.**, Harty BL. Adhesion GPCRs as Novel Actors in Neural and Glial Cell Functions: From Synaptogenesis to Myelination. **Handb Exp Pharmacol.** 234:275-298 (2016).
- Selimi F.**, Cristea I.M., Heller E., Chait B.T. and Heintz N. Proteomic Studies of a Single CNS Synapse Type: The Parallel Fiber/Purkinje Cell Synapse  
In: BACs, TRAPs, and Targeted Mutations: Revealing Secrets of the Mammalian Brain Using Advanced Genetic Approaches. (Heintz N, ed) pp. [35-42]. Washington, DC: Society for Neuroscience. (2011)
- Selimi F. and Heintz N. How do neurons keep in touch?  
**Nature neuroscience** 8(11):1417-8 (2005).
- Selimi F., Campana A., Bakouche J., Lohof A., Vogel M.W. and Mariani J. Mechanisms of Neuronal death: An in vivo study in the Lurcher Mutant Mice  
**Research and Perspectives in Neurosciences, Springer, p109-135 (2001).**
- Selimi F. et Mariani J. Etipaphe pour un neurone condamné.  
**Médecine/sciences** 16(4): 500-503 (2000).
- Selimi F.**, Mariani J. et Martinou J-Cl. *Caenorhabditis elegans* et la mort neuronale chez les mammifères,  
**Revue Neurologique** (Paris); 153: 8-9, 478-483 (1997).
- Faucheux B.A., Villares J., **Selimi F.**, Prigent A., Javoy-Agid F., Hauw J.J., Agid Y. and Hirsch E.C. Localization and Density of Transferrin Binding Sites in the Nigrostriatal System of Control Subjects and Patients with Parkinson's Disease,  
**Alzheimer's and Parkinson's Diseases: Recent Developments**, (Plenum Publishing Corporation New York) 239-244 (1995).