



Lydia DANGLOT - PhD in Neuroscience - Synapse Dynamics

(see [website http://lydia.danglot.free.fr](http://lydia.danglot.free.fr) for details)

Current position

INSERM Researcher in Neuroscience

2017: Scientific director of the Neurlmag Imaging facility, Inserm CR1.

Institut de Psychiatrie et Neurosciences de Paris (IPNP) directed by T. GALLI.

2014: Inserm CR1 in the team of T. Galli, Institut Jacques Monod (IJM, Paris) directed by G. Baldacci.

2010: recruited as Permanent Staff Scientist (CR2) by Inserm (National Institute for medical research) national competitive recruitment in the team of T. Galli, at the Jacques Monod Institute (IJM, Paris).

Elected member of The Institut Jacques Monod Council, and of the IJM Equipment Commission.

2014-2019 : elected representative of permanent Staff Scientists and Assistant Professors

2009-2010 : elected representative of post-doctoral fellows

Scientific summary

We aim to understand the mechanisms of formation of neuronal synapses and vesicular trafficking allowing transport of synaptic proteins during maintenance and plasticity of excitatory and inhibitory synapses. To do so, we use classical biochemistry, and molecular and cellular biology technics. We also use multi-scales imaging: at the level of the organism with MRI, at the tissular level with confocal tile imaging. At the cellular and molecular levels we use advanced microscopy technics like spinning disc video-microscopy, single particle tracking with QDOTS and super resolution SIM, STED & STORM microscopy.

Education and training

2005-2010: Postdoc in Thierry Galli 's Lab - Institut Jacques Monod (Paris)

Topic: Membrane Traffic in EGF receptors dynamics

2000-2004 : PhD in Neuroscience (Université Pierre & Marie Curie) -

Ecole Normale Supérieure - Paris

Antoine Triller's Laboratory - PhD under the direction of Alain Bessis

Topic: Formation and maturation of inhibitory synapses in hippocampus

First class with honnors

1999 : Master's degree in Biochemistry at the Pierre & Marie University (UPMC)

Teaching activities:

- Inserm Instructor (national formation for permanent scientists, post-doc and PhD students):

- Microscopy and Image Analysis : from ImageJ to ICY software
- The essentials of ImageJ, Photoshop, Illustrator, InDesign and Endnote to construct scientific reports: from figure conception to bibliography management

- Invited speaker in **7 Universities & higher education institutions** concerning master and doctoral school programs in **Neuroscience** and **Cell biology** (Ecole Normale Supérieure de Paris, Ecole Normale Supérieure de Cachan, Université Pierre & Marie Curie, Univ. Paris Diderot, Univ. Paris Descartes, Faculty of Medicine Paris 12, Université de Namur, Belgium).

Member of Learned Societies:

- French society for Neuroscience (Société des Neurosciences)
- Federation of European Neuroscience Societies (FENS)
- International Brain Research Organization (IBRO)
- American Society for Neuroscience (Sfn)
- Paris «Brain week » committee (webmaster)
- French Society for Cell Biology (SBCF)
- American Society for Cell Biology (ASCB)
- French Club «Exocytosis & Endocytosis»

Born in Paris (Sept 1977)

Present location:

Team : Membrane traffic in Healthy & Diseased Brain

Institut de Psychiatrie et Neurosciences de Paris (IPNP)

Inserm 1266

102 rue de la Santé

75 014 PARIS FRANCE

Phone : + 33 (0) 1 40 78 86 49



Mail : lydia.danglot@inserm.fr



Web : <http://lydia.danglot.free.fr>

SCIENTIFIC TOPICS

**Molecular Neuroscience & Behavior
Cell Biology & Biochemistry
Receptors dynamics**

KEYWORDS

**Neurosciences
Cell Biology
Live Imaging
Super-resolution microscopy**



Scientific committees and national responsibilities



Webmaster (2012-2016) and member of the Brain Awareness Week (2012-2019) Committee in Paris and Ile de France.

The Brain Awareness Week is an international action aimed at promoting research on the brain towards the general public. The Brain Awareness Week is hosted every year in March in more than 30 French cities.

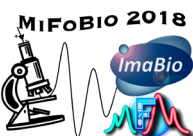
I organize the implementation of animations and I was the webmaster of the website containing all the animations every year in Paris and throughout the Ile de France from 2012-2016.

This web site contained 27 web pages with the description of 39 animations which represents about 10,000 lines of code and 380 illustrations. The establishment of the website requires close collaboration with all stakeholders, laboratories and organizing partners to identify and organize all the information.



2013-2016 Treasurer of the Club Exocytose Endocytose (<http://exoendo.u-strasbg.fr/presentation.html>).

The club promotes the development of scientific research in all areas related to exocytosis and endocytosis, it promotes exchanges between French researchers, including the organization of an annual national congress that last 3 days and gather more than 100 scientists in the fields. To minimize costs and favor participation, part of expenses is supported by the club through intensive research sponsors. The treasurer manages donations sponsors, the inscription of all the candidates and the cash treasury.



2014-2019 Board member of the National CNRS Research Group ImaBio – on Functional microscopy of the living

Created in 2003, the group gathers research teams (>90) investigating major cellular functions in live cells, tissues and organisms through microscopy. It gathers 790 members in biology, physics, chemistry, image processing, computing and applied mathematics and regularly organizes thematic actions and training around the microscopy and for exemple the famous thematic school in microscopy: MIFOBIO (<http://imabio-cnrs.fr>).

2013-2019 Coordinator of the national user committee of France Bio Imaging infrastructure.

France Bio Imaging is a national infrastructure dedicated to innovation, training and technology transfer in the field of cellular photonic and electron microscopy. It aims at exploring technological advances, sustaining efforts in R & D, and spreading knowledge in several centers (Marseille, Montpellier, Bordeaux, Ile de France and Paris) by providing financial supports and tools to the community, especially bioimage analysis tools. The user committee is in charge of identifying needs expressed by users (3500) at the national level to improve the supply of equipment and technological developments available through France Bio Imaging.

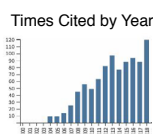


Selected latest oral communications

I was **invited speaker to several international meetings (15)** and in various **national research institutes** to present our work (19).

- Unraveling molecular arrangements of synaptic protein with multiple color super-resolution microscopy and quantitative analysis with Icy SODA plugin. **International congress of Quantitative Bio Imaging 2019, Rennes, France.**
- Vesicular trafficking pathways influencing molecular organisation of synaptic proteins. **Inserm Workshop on Microscopy and Image Analysis, Bordeaux (2018).**
- Unraveling spatial organization of synaptic protein with multiple color super-resolution microscopy and quantitative analysis with Icy SODA plugin. **Invited speaker to American Society for Neuroscience. San Diego, USA (2018).**
- Statistical colocalisation analysis from conventional to super resolution microscopy : tips and trick for molecular mapping. **Mifobio, CNRS thematic school on microscopy, Seignosse, France (2018)**
- Unraveling synapse organisation with multiple color 3D STORM and new membrane fluorescent probes. **Invited speaker to the Science and Technology Facilities Council (STFC), Oxford (2018).**
- Unraveling synapse organisation with multiple color 3D STORM and new membrane fluorescent probes. **Invited speaker to UCL Institute of Neurology, London (2018).**
- Exploring molecular organisation of synaptic proteins with ICY SODA and multiple color super resolution microscopy. **ICON super resolution meeting 2018, Bielefeld, Germany.**
- Vesicular trafficking pathways influencing synaptic protein composition and memory in hippocampus. **Neurophotonics Meeting, Bordeaux, France (2017).**
- Exploring multiple color 3D STORM microscopy. **Invited speaker by Hans Blom at Carolinska Institute, Scilifelab, Stockholm (2017).**
- Analyzing spatial distance and colocalization of synaptic molecules in multi-color super-resolution microscopy with Icy SODA (Standard Object Distance Analysis), **France Bio Imaging Meeting (2015), France.**
- Role of vesicular SNAREs VAMP2 and TI-VAMP in hippocampal pre and post-synaptic assembly. **European synapse meeting (2013), Bordeaux, France.**
- Role of membrane traffic in synapse assembly and maintenance. **Treilles meeting : Presynapse: function, plasticity, dysregulations, France, 10-15 sept 2012.**
- Regulation of TI-VAMP in pre and post-synaptic dynamics. **Université Caen Basse Normandie, Caen, France (Sept. 2012), Invited by Pr Michel Boulouard.**
- Role of TI-VAMP-dependent transport of the tetraspanin CD82 in EGF receptor dynamics. **3rd European Conference on Tetraspanins, Villejuif, September 10-11, 2009.**
- TI-VAMP mediates Golgi to cell surface trafficking and regulates EGFR cell surface dynamics. **Institut Curie, France (March 2009), Invited by Dr Franck Perez.**

Selected publications



Since 2003, these 36 articles were cited 917 times, with 408 citations corresponding to my first author papers

36 papers since 2003
3 reviews, 34 original articles
8 first author papers

h-index : 18
Last author/ corresponding author : 4
Sum of the Times Cited : 917

Aver citation /year : 57.31
Aver Citations / Item : 24,78
Aver Citations / 1st author : 51,25

(<http://apps.webofknowledge.com.gate1.inist.fr> on JANUARY 2019).

Selected recent Articles

MemBright: a Family of Fluorescent Membrane Probes for Advanced Cellular Imaging and Neuroscience

Collot M*, Ashokkumar P, Anton H, Boutant E, Faklaris O, Galli T, Mely Y, Danglot L*, Klymchenko A*

Cell Chemical Biology 2019 (in press). *BioRxiv* 2018 [doi: https://doi.org/10.1101/380451](https://doi.org/10.1101/380451) * **corresponding authors**



Metrics : 58, 85 tweets.

Lagache T, Grassart A, Dallongeville S, Faklaris O, Sauvonnnet N, Dufour A, Danglot L*, Olivo-Marin JC*.

Mapping molecular assemblies with fluorescence microscopy and object-based spatial statistics.

Nature Com. 2018 Feb 15;9(1):698. *Special sights on the INSERM press website* * **corresponding authors**



Metrics : 30, 59 tweets, 79 readers.

Collot M, Fam TK, Ashokkumar P, Faklaris O, Galli T, Danglot L, Klymchenko AS.

Ultrabright and Fluorogenic Probes for Multicolor Imaging and Tracking of Lipid Droplets in Cells and Tissues.

JACS. 2018 Apr 25;140(16):5401-5411. [doi:10.1021/jacs.7b12817](https://doi.org/10.1021/jacs.7b12817). Epub 2018 Feb 27. PubMed PMID: 29446627.



Ghosh D, Pinto S, Danglot L, Vandewauw I, Segal A, Van Ranst N, Benoit M, Janssens A, Vennekens R, Vanden Berghe P, Galli T, Vriens J, Voets T.

VAMP7 regulates constitutive membrane incorporation of the cold-activated channel TRPM8.

Nature Com. 2016 Feb 4;7:10489. [doi: 10.1038/ncomms10489](https://doi.org/10.1038/ncomms10489).

Molino D, Nola S, Lam SM, Verraes A, Proux-Gillardeaux V, Boncompain G, Perez F, Wenk M, Shui G, Danglot L*, Galli T*.

Role of tetanus neurotoxin insensitive vesicle-associated membrane protein in membrane domains transport and homeostasis.

Cell Logist. (2015) Apr 29;5(1):e1025182. eCollection 2015 Jan-Mar. * **co-senior authors**

9: Koseoglu S, Peters CG, Fitch-Tewfik JL, Aisiku O, Danglot L, Galli T, Flaumenhaft R.

VAMP-7 links granule exocytosis to actin reorganization during platelet activation.

Blood. 2015 Jul 30;126(5):651-60. [doi: 10.1182/blood-2014-12-618744](https://doi.org/10.1182/blood-2014-12-618744). Epub 2015 May 21.

L. Danglot*, Kathleen Zylbersztejn*, Maja petkovic*, ... Denis Vivien, Maurizio D'esposito, and Thierry Galli.

Absence of TI-VAMP/Vamp7 leads to increased anxiety in mice.

Journal of Neuroscience (2012), 32(15):5186-99. *equal contributions

Recommended by Faculty of the 1000



L. Danglot, M. Chaineau, M. Dahan, M.C. Gendron, N. Boggetto, F. Perez, E. Rubinstein and T. Galli

EGF receptor cell surface dynamics is regulated by the vSNARE TI-VAMP.

Journal of Cell Science (2010), 123 :723-735

Special insights on the CNRS website:



Selected Review

L. Danglot*, A. Triller, and S. Marty

The Development of Hippocampal Interneurons in Rodents

Hippocampus (2006) 16: 1032–1060. Review. * **corresponding author**

Selected News & Views

L. Danglot, T. Galli

Bric-a-brac at the Golgi

Dev Cell. (2009), 16(6):775-6.