



Lydia DANGLOT - PhD in Neuroscience - Synapse Dynamics

Current position

INSERM Researcher in Neuroscience, PhD, HDR

2014: Habilitation à Diriger des Recherches - Habilitation to Direct Research (Final & highest academic degree)
 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

Born in Paris (Sept 1977)

Present location:

Membrane traffic in Health & Disease

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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 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»

SCIENTIFIC TOPICS

Molecular Neuroscience & Behavior
 Cell Biology & Biochemistry
 Receptors dynamics

KEYWORDS

Neurosciences
 Cell Biology
 Imaging



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Scientific committees and national responsibilities



2012-2015 Member and Webmaster of the Brain Awareness Week 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 am the webmaster of the website containing all the animations every year in Paris and throughout the Ile de France: <http://www.semaineducerveau.fr/2014/Paris/paris/Paris.html>.

This year the 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. For the first time this year the Paris website also collected animations from surrounding town in the suburb to give rise to the Ile de France Brain Awareness Week Website.

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.

2014-2015 Member of the bureau of the Research Group CNRS GDR 2588- 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://gdr-miv.fr>).

2013-2015 Coordinator of the national user committee of France Bio Imaging.

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 Oral communications

I was **invited speaker to several international meetings (5)** and in various **national research institutes** to present our work(12).

- 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.
- Role of TI-VAMP-dependent transport of the tetraspanin CD82 in EGF receptor dynamics.
3rd European Conference on Tetraspanins, Villejuif, September 10-11, 2009.
- Exocytosis & cancer in epithelial cells.
European Strep Signalling & Traffic Meeting, IFOM-IEO Campus, 27-28 Octobre 2006, Milano, Italy.
- The Role of AP3 in Spontaneous and Evoked Release at hippocampal mossy fiber terminals.
Molecular and Cellular Biology of the Synapse, Université Paris VII, Juillet 2006, Paris, France.
- Role of vesicular trafficking in hippocampal synapse assembly and plasticity.
Centre de Recherche en Neurosciences de Lyon, France, June 2013,
Invited by Dr Olivier Pascual.
- Role of vesicular SNAREs in hippocampal pre and post-synaptic assembly.
Journee du Club des réseaux neuronaux, Lyon, France (May 2013).
- Role of vesicular trafficking in glutamate receptor trafficking at hippocampal synapse.
Cyceron, Caen, France, (April 2013), *Invited by Pr Denis Vivien.*
- Role of vesicular SNAREs in hippocampal pre and post-synaptic assembly.
Magendie Neuroscience Institute, Bordeaux, France (Jan. 2013),
Invited by Dr Christophe Mulle.
- Regulation of TI-VAMP in pre and post-synaptic dynamics.
Université Caen Basse Normandie, Caen, France (Sept. 2012),
Invited by Pr Michel Boulouard.
- TI-VAMP mediates Golgi to cell surface trafficking and regulates EGFR cell surface dynamics. **Institut Curie**, France (March 2009), *Invited by Dr Franck Perez.*
- Regulation of EGFR cell surface dynamics by the vSNARE TI-VAMP.
Institut du Fer à Moulin, Paris, France (Jan. 2009), *invited by Dr Jean-Christophe Poncer.*
- Regulation of EGFR endocytosis by TI-VAMP dependent transport of CD82.
Meeting of the club Exocytose-Endocytose, Institut Pasteur, France (Jan. 2009).
- EGF pathway : revised role for TI-VAMP. **Annual meeting of the Club Exocytose-Endocytose**, Villard de Lans, France, Oct. 2007.

Selected publications

Since 2003, these 20 articles were cited 462 times, with 262 citations corresponding to my first author papers

20 papers since 2003
3 reviews
8 first author papers

h-index : 11
Sum of the Times Cited : 462
Aver citation /year : 42

Aver Citations / Item : 21
Aver Citations / 1st author paper : 33,5

(<http://apps.webofknowledge.com.gate1.inist.fr> on April 4th 2014).

Selected Articles

L. Danglot, T. Freret, N. Le Roux, N. Narboux-Nème... P. Gaspar, M. Boulouard, J.C. Poncer, T. Galli, M.C. Simmler
Vezeatin is essential for dendritic spine morphogenesis and functional synaptic maturation.
Journal of Neuroscience, (2012), 32(26):9007-22.

L. Danglot*, Kathleen Zylbersztein*, 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** <http://f1000.com>

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
Led to special insights on the CNRS website: <http://www.cnrs.fr/insb/recherche/parutions/articles2010/l-danglot.html>

C. Dequidt, L. Danglot, P. Alberts, T. Galli, D. Choquet, O. Thoumine
Fast Turnover of L1 Adhesions in Neuronal Growth Cones Involving Both Surface Diffusion and Exo/Endocytosis of L1
Molecular Biology of the Cell (2007), 18: 3131–3143.

L. Danglot*, A. Scheuber*, R. Rudge*, G. Raposo, T. Binz, J.C. Poncer, T. Galli
Loss of AP-3 function affects spontaneous and evoked release at hippocampal mossy fiber.
Proc. Natl. Acad. Sci. USA (2006)103: 16562-16567, * first co- authors : equal contributions

L. Danglot, A. Triller, A. Bessis
Association of gephyrin with synaptic and extrasynaptic GABAA receptors varies during development in cultured hippocampal neurons.
Molecular & Cellular Neurosciences (2003), 23 : 264-278.

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.

Poster presentations

Since 2003, I presented **27 scientific posters in national (12) and international meetings (15)** with among them: FENS, IBRO, European synapse meeting, French society for Neuroscience, Jacques Monod Conference, ASCB, Gordon Research Conference, annual congress of the club exocytosis-endocytosis, ...