Cyril Hanus

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Education

- PhD (Neuropharmacology): February 2006, École Normale Supérieure (Paris, Ulm), Paris 6 University.
- Master of Advanced Studies (Neuropharmacology): June 2002. École Normale Supérieure, Paris 6 University.
- Magistère de Biologie-Biochimie - École Normale Supérieure: 1999-2002.
- MS (Cell Biology and Physiology): June 2001, Paris 6 University.
- BS (Cell Biology and Physiology): June 2000, Paris 6 University.

Professional experience

- 2017 – present. Group leader. Biogenesis and dynamics of dendritic proteins.
  Center for Psychiatry and Neurosciences, Inserm U894 (Paris, France).
- 2017 – present. Tenured Senior Research Scientist (CR1 Inserm – Cell Biology).
- 2011 – 2016 Postdoctoral fellow / project leader.
  Laboratory of Dr. Erin M. Schuman.
  Max Planck Institute for Brain Research (Frankfurt, Germany).
- 2006 - 2011. Postdoctoral fellow.
  Laboratory of Dr. Michael D. Ehlers.
  HHMI, Duke University Medical Center (Durham, NC, USA).
- 2001 - 2006. Master and Doctoral Research.
  Laboratory of Dr. Antoine Triller.
  École Normale Supérieure (Paris, France).
- 1999 - 2001. Rotations and internships.
  2001. laboratory of Dr. Daniel Choquet (Bordeaux 2 University, France).
  2000. laboratory of Dr. Alain Fisher. Hôpital Necker-Enfants Malades (Paris, France).
  1999. laboratory of Dr. Yves Agid. Hôpital de la Salpêtrière (Paris, France).

Teaching

2018: Instructor at Cajal Course in Advanced Imaging Methods for Cellular Neurosciences, Bordeaux.

2017. Introduction to Neuron Cell Biology. M2 students. École Normale Supérieure.

2002 - 2003 - 2004: Cell Biology instructor for the 1st grade of biology at Paris 12 University.

Scientific Editing

- Review Editor for Frontiers in Synaptic Neuroscience
- Peer review on behalf of my former supervisors for Cell, Science, Neuron, Current Biology, the Journal of Neuroscience, Trends in Cell Biology, …
- Contributions to peer review of research grants (e.g. ANR blanc).

Mentoring and supervisory experience

- Dorian Miremont (Assistand Engineer): 2017 - present
- Annie Mauborgne (Assistant Engineer): 2017 - present

- R. Pieaud (ENS, Master student): 5 months in 2016
- S. Garg (Postdoc): 2014 - 2015
- J. Meier-Credo (Master student): ~6 months in 2014 - 2015
- C. Glock (PhD student): 2013 - 2016
- C. Böger (PhD student): 2013 - 2015
- L. Nicholson (Master student): ~6 months in 2013
- L. Kochen (Technician, then PhD student): 2011 - 2012
- H. Geptin (Technician): 2011 - 2016
- J. Ho (Master student): ~4 months in 2010
- T. Cui-Wang (PhD student): 2008 - 2011

Research grants and awards

- "GLYCOSTAB. ANR JCJC 2016. 02/ 2017-02/2020. 300.000€

- "Dendritic Processing" Marie Curie Carrier Integration Grant (FP7-PEOPLE-2011-CIG; Project# 303818), 03/2012-03/2015. 75.000€

- Best poster Award. Gordon Research Conference. Excitatory Synapses and Brain Functions, 2011, Stonehill, MA, USA.

- Zeiss Advanced Imaging Award. Gordon Research Conference. Dendrites: Molecules, Structure and Function. 2011, Ventura, CA, USA.

- "Analysis of Glycine Receptor and Gephyrin turnover at individual synapses by real-time imaging methods" Fédération pour la Recherche Médicale #FDT20041203037, 11/2004-11/2005.

- "Cellular dynamics of the glycine receptor and gephyrin", PhD grant form the Ministère de la Recherche et des Technologies, 10/2001-10/2004.

Invited talks at international conferences and workshops

- 2018 Cajal Course: Advanced Imaging Methods for Cellular Neurosciences. Bordeaux (Workshop).
- 2017 Annual Meeting of the French Society for Neurosciences, Bordeaux.
- 2014 Development of Neural Networks, École Normale Supérieure, Paris.
- 2011 Gordon Research Conference "Dendrite Structure and Function", Ventura (short talk).

Invited seminars

- 2017 Tbd. Imagine Institute, Paris.
  Tbd. Institute of Human Genetics, Montpellier.
  Institute for Functional Genomics, Lille.
- 2016 École Normale Supérieure, Paris.
  Institut du Fer à Moulin, Paris.
- 2015 EMBL, Monterotondo.
  Institut Pasteur, Paris.
  IBDM, Marseille.
  Grenoble Institute for Neurosciences, Grenoble.
  Frankfurt Institute for Advanced Studies, Frankfurt.
- 2014 Collège de France, Paris.
- 2011 Institut Jacques Monod, Paris.
- 2010 École Normale Supérieure, Paris.
- 2005 Cancer Research United Kingdom, London.
  Columbia University, New York City.
  Duke University, Durham.

Publications pending

1. B. Alvarez-Castelao*, **C. Hanus**[*], C. Schanzenbaecher[1], C. Glock, J. Langer, A. Mueller, D. Dieterich, D.A. Tirrell and E.M. Schuman. *In vivo* Genetically-Restricted Protein Metabolic Labeling in the Mouse Brain. * *Equal contribution. In revision for Nature Biotechnology (manuscript # NBT-PL404780).*

2. A.B. Bowen, **C. Hanus** and M.J. Kennedy. Golgi-independent secretory trafficking through recycling endosomes in neuronal dendrites and spines. *In revision for eLife (manuscript # eLife-27362).*

3. L. Nicholson, N. Gervasi and **C. Hanus**[#]. Whole-Cell Photobleaching Reveals Time-Dependent Protein Filtering at the Axon Initial Segment. *In revision for Frontiers in Cellular Neurosciences (manuscript # 262660).* [#] *Corresponding author.*

4. **C. Hanus**[#]. The Synapse Sweet Tooth: Impact of N-glycosylation on the Function and Dynamics of Synaptic Proteins. *Review. In preparation for Frontiers in Synaptic Neurosciences.* [#] *Corresponding author.*

Publications

1. **C. Hanus**[#], H. Geptin, G. Tushev, S. Garg, B.Alvarez-Castelao, S. Sambandan, L. Kochen, A-S. Hafner, J. Langer and E.M. Schuman[#] (2016). Unconventional secretory processing diversifies neuronal ion channel properties. **eLife** *DOI 10.7554/eLife.20609.* [#]Corresponding authors.

2. **C. Hanus**[#] and M.D. Ehlers[#] (2016). Neuronal adaptation to biosynthetic membrane trafficking: secretion in developing and mature dendrites. **Current Opinion in Neurobiology**. 39:8-16. [#] Corresponding authors.

3. S. tom Dieck*, L. Kochen*, **C. Hanus**, M. Heumüller, I. Bartnik, B. Nassim-Assir, K. Merk, T. Mosler, S. Garg, S. Bunse, D.A. Tirrell, E.M. Schuman (2015). Direct visualization of newly synthesized target proteins in situ. **Nature Methods***, doi: 10.1038/nmeth.3319. * Equal contribution*.

4. F. Buhr, J. Kohl-Landgraf, S. tom Dieck, **C. Hanus**, D. Chatterjee, A. Hegelein, E.M. Schuman, J. Wachtweitl, H. Schwalbe (2015). Design of photocaged puromycin for nascent polypeptide release and spatiotemporal monitoring of translation. **Angew Chem Int Ed Engl.** 54(12):3717-21.

5. **C. Hanus**[#], L. Kochen, S. tom Dieck, V. Racine, J.B. Sibarita, E.M. Schuman and M.D. Ehlers[#] (2014). Synaptic Control of Early Secretory Trafficking in Dendrites. **Cell Reports**, 7(6):1771-8. [#] Corresponding authors.

6. S. tom Dieck **C. Hanus** and E.M. Schuman (2014). SnapShot: local protein translation in dendrites. **Neuron** 81(4):958-958.

7. **C. Hanus** and E.M. Schuman (2013). Proteostasis in Complex Dendrites. **Nature Reviews Neuroscience,** 14(9):638-48. *Interview in "Zooming in" in http://www.nature.com/neurosci/neuropod/index-2013-08-28.html*

8. K.H. Condon, J. Ho, C.G. Robinson, **C. Hanus**, M.D. Ehlers (2013). The Angelman Syndrome Protein Ube3a is Required for Golgi Acidification and Surface Protein Sialylation. **The Journal of Neuroscience**, 33(9):3799 –814.

9. T. Cui-Wang*, **C. Hanus***, T. Cui, T.D. Helton, J. Bourne, D.J. Watson, K.M. Harris and M.D. Ehlers (2012). Local Zones of ER Complexity Confine Cargo in Neuronal Dendrites. **Cell**, 148(1-2):309-21. **Equal contribution*. Advertized in Nature Reviews Neuroscience (2012) 15;13(3):152-3. doi: 10.1038/nrn3195.*

10. **C. Hanus** and M.D. Ehlers (2008). Secretory outposts for the local processing of membrane cargo in neuronal dendrites. **Traffic**, 9(9):1437-45.

11. M.V. Ehrensperger, **C. Hanus**, C. Vannier, A. Triller, and M. Dahan (2007). Multiple association states between glycine receptors and gephyrin identified by SPT analysis. **Biophysical Journal**, 92(10):3706-18.

12. **C. Hanus**, M.V. Ehrensperger, and A. Triller (2006). Activity-dependent movements of postsynaptic scaffolds at inhibitory synapses. **The Journal of Neuroscience**, 26(17):4586-95.

13. **C. Hanus**, C. Vannier, and A. Triller (2004). Intracellular Association of Glycine Receptor with Gephyrin Increases Its Plasma Membrane Accumulation Rate, **The Journal of Neuroscience**, 24(5):1119-1128.

Abstracts (posters at international conferences)

- **C. Hanus**[#], H. Geptin, G. Tushev, S. Garg, B.Alvarez-Castelao, S. Sambandan, L. Kochen, A-S. Hafner, J. Langer and E.M. Schuman[#]. Unconventional secretory processing diversifies neuronal ion channel properties.

EMBO workshop. Glycosylation in the Golgi Complex. October 24-28 2016. Viquo Equense, Italy. # Corresponding authors.

- **C. Hanus***, B. Alvarez-Castelao*, C. Glock, D. Dieterich, D. A. Tirell and E.M. Schuman. Genetically-Restricted Protein Metabolic Labeling in the Mouse Brain. EMBO conference. RNA Localization and Local Translation. 28 June – 3 July 2015 – Hersonissos, Greece. * *Equal contribution*

- C. Böger, **C. Hanus**, U. Endesfelder, E.M Schuman and M. Heilemann. Quantitative Nanoscopy of the Postsynapse. 4th Single Molecule Localization Microscopy Symposium. King's College London. August 27-29 2014.

- **C. Hanus** and M.D. Ehlers. Synaptic Control of Early Secretory Trafficking in Dendrites. Conférences Jacques-Monod, Imaging neuronal functions: from molecules to circuits, Roscoff France, June 30-July 4 2012.

- T. Cui-Wang*, **C. Hanus***, T. Cui, T.D. Helton, J. Bourne, D.J. Watson, K.M. Harris and M.D. Ehlers. Local Zones of ER Complexity Confine Cargo in Dendrites. * *Equal contribution.* Gordon Research Conference. Excitatory Synapses and Brain Functions, June 26–July 1 2011, Stonehill, MA, USA. *Recognition for best poster award.*

- C. Hanus*, T. Cui-Wang*, T. Cui, T.D. Helton, J. Bourne, D.J. Watson, K.M. Harris and M.D. Ehlers. Mobility and Confinement of Nascent Membrane Cargo in the Dendritic Endoplasmic Reticulum. * *Equal contribution* Gordon Research Conference. Dendrites: Molecules, Structure and Function. March 13-March 18 2011, Ventura, CA, USA. *Selection for a short talk and recognition for Zeiss imaging award.*

- M.V. Ehrensperger, **C. Hanus**, C. Charrier, S. Lévi, A. Triller, M. Dahan Single molecule study of glycine receptor dynamics and interactions with scaffolding proteins 15th IUPAB & 5th EBSA International Biophysics Congress, Montpellier. August 27–September 1 2005.

- Hanus C, Vannier C et Triller A. Intracellular association of GlyR with gephyrin increases its plasma membrane accumulation rate. 4th Forum of the European Neuroscience, Lisbon. July 10-July 14 2004.

- Lévi S, Rostaing P, Luccardini **C, Hanus** C, Riveaud B, Triller A, Dahan M. Single molecule imaging reveals multiple diffusive states of glycine receptors. IBRO Meeting, Prague, July 10- July 15 2003.

Book chapters

C. Hanus and M.D. Ehlers: Organelles and Trafficking Machinery of Dendrites and Spines. In Structural and Functional Organization of the Synapse. Springer 2007.

References

Prof. Dr. Erin M. Schuman
Director, Max Planck Institute for Brain Research
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Prof. Dr. Michael D. Ehlers
Executive Vice President; Biogen, Boston
michael.ehlers@biogen.com

Dr. Antoine Triller
Director, Institut de Biologie de l'École Normale Supérieure, Paris
triller@biologie.ens.fr

Dr. Daniel Choquet
Director, Institut Interdisciplinaire de Neurosciences, Bordeaux
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