

## CV - Volker Haucke, Ph.D.

### Volker Haucke Ph.D.

Born: June 29, 1968, Berleburg, Germany

Leibniz-Forschungsinstitut für Molekulare Pharmakologie  
Department of Molecular Pharmacology and Cell Biology  
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### Education and Professional Experience

January 2012 - present	Full Professor of Molecular Pharmacology, Freie Universität Berlin & Director at the Leibniz- Forschungsinstitut für Molekulare Pharmakologie
2020-2021	Professeur invité, Université Paris Descartes, France
2005 - 2011	Full Professor of Biochemistry (W3), FU Berlin, Institute of Chemistry & Biochemistry, Department of Membrane Biochemistry
2004, 2008	Offer for full professorships (C4/ W3; both declined), University of Konstanz; University of Bonn
2003 - 2005	Professor of Biochemistry (C3), FU Berlin, Department of Membrane Biochemistry
2003	Habilitation (venia legendi), Biochemistry, University of Göttingen
2000 - 2003	Assistant Professor/ Independent junior research group leader; Center for Biochemistry & Molecular Cell Biology, University of Göttingen
1997 - 2000	Postdoctoral Research Associate, Yale University & HHMI
1997	Ph.D. („Summa Cum Laude“), Biochemistry, University of Basel (Biozentrum), Switzerland
1994 - 1997	Ph.D. student, Department of Biochemistry, Biozentrum, University of Basel, Switzerland (supervisor: Prof. Dr. G. Schatz)
1994	Diploma (MSc equivalent), Biochemistry, FU Berlin

### Scientific Affiliations

Member & Principal Investigator, NeuroCure Cluster of Excellence

Vice-Chair & Board Member, SFB 958 "Scaffolding of Membranes"

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Board Member, TRR 186 "Molecular Switches"

Member, American Society for Cell Biology, Bethesda, USA (ASCB)

Member, American Society for Biochemistry & Molecular Biology (ASBMB)

Member, Society for Neuroscience, Washington D.C. (SFN)

Member, German Society for Biochemistry & Molecular Biology, Frankfurt, (GBM)

Member, German Society for Cell Biology (DGZ), Heidelberg

### Honors

2021 Vice-President, German Society for Biochemistry & Molecular Biology (GBM)

2020 ERC Advanced Grant, European Research Council

2020 Feldberg Prize for Research in Physiology and Pharmacology

2020/ 2021 Professeur invité at the Institute of Psychiatry and Neuroscience of Paris, Université Paris Descartes (iPNP)

2019 Elected Member of the Academia Europaea/ Academy of Europe (AE)

2019 Armin Schram Lecture of the German Neuroscience Society

2017 Elected Member of the Berlin-Brandenburg Academy of Sciences (BBAW)

2017 Elected Member of The German National Academy of Sciences, Leopoldina

2017 Avanti Award of the American Society for Biochemistry & Molecular Biology (ASBMB)

2016 Reinhart-Koselleck-Award of the Deutsche Forschungsgemeinschaft (DFG)

2014 Elected Member of the European Molecular Biology Organization (EMBO)

2003 Young Investigator Award (YIP), European Molecular Biology Organization

1998 Long-Term Fellowship Award, Human Frontier Science Program

1997 Long-Term Fellowship Award, European Molecular Biology Organization

1995 Short-Term Fellowship Award, European Molecular Biology Organization

1994 Boehringer Ingelheim Fellow

1993 Dr. Carl-Duisberg-Foundation Scholar

1990 - 1993 Scholarship Holder of the Studienstiftung des deutschen Volkes

## Advisory & Editorial Boards

President of the Scientific Advisory Board, Institute of Psychiatry and Neuroscience of Paris, Université Paris Descartes (iPNP) (since 2020)

Chairman (since 2021) & Member (since 2017), Scientific Advisory Board, Leibniz Institute on Aging-Fritz Lipmann Institute (FLI)

Advisory Board Member, German Society for Biochemistry & Mol. Biol. (GBM) (2020 - 2021)

Neuroscience Advisory Board Member, Faculty Opinions

Member, Scientific Advisory Board, Leibniz Science Campus InterACT, Hamburg (since 2020)

Scientific Advisory Board of open access platform *Matters* (since 11/2015)

Editorial Board, EMBO Reports (since 01/2012)

Editorial Board, Journal of Biological Chemistry (USA, 2007 - 2012)

Editorial Board, Biology Cell (2005 - 2009; 2011 - onwards)

Editorial Board, Cell Stress (since 2018)

Member, Study Section, "Biochemistry" of the German Funding Agency (DFG) (2008-2016)

## Conference Organization

May 2024, EMBO Workshop on "Autophagy and Lysosomes in Brain Health & Disease" (main organizer together with Ginny Farias & Sandra Soukup), Sant Feliu de Guixols (Spain)

May 2020, Keystone Conference "PI3K and PTEN in Cell Growth & Disease" (main organizer with Bart Van Haesebroeck) Hannover, Germany - cancelled due to Covid-19

September 2018, Cajal Workshop "Cell Biology of Neurons", Bordeaux, France (main organizer)

September 2018, 3rd International Conference, "Membranes & Modules", Berlin (Co-organizer)

July 2015 Federation of the European Biochemical Societies (FEBS) - Annual Meeting (Chair)

October 2013 Janelia Conference on Synaptic Vesicle Biogenesis, Janelia Farm, MD, USA (Co-organizer w/ Pietro De Camilli, Yale, and Tim A. Ryan, Cornell)

March 2013, 2nd International Conference on "Membranes & Modules", Berlin (Co-organizer)

December 2010, International Conference "From protein structure to membrane dynamics", Berlin (Chair)

October 2010, Workshop "Trends in Microscopy", Berlin (Co-chair w/ Stephan Sigrist)

December 2009, 1st International Conference, "Membranes & Modules", Berlin (Co-Chair)

May/ June 2006 International Meeting "Cell Biology of the Synapse", Paris (Co-organizer w/ Thierry Galli, Paris)

**10 Representative Publications**

1. Jang, W., Puchkov, D., Samsø, P., Liang, Y.T., Nadler-Holly, M., Sigrist, S.J., Kintscher, U., Liu, F., Mamchaoui, K., Mouly, V., **Haucke, V. (2022)** Endosomal lipid signalling reshapes the endoplasmic reticulum to control mitochondrial function. *Science* **378**, eabq5209 (2022). DOI: 10.1126/science.abq5209 (see perspective by Zanellati & Cohen in *Science*, **378** (6625), DOI: 10.1126/science.adf5112)
2. Lo, W.T., Zhang, Y., Vadas, O., Belabed, H., Roske, Y., Gulluni, F., De Santis, M.C., Vujicic Zagar, A., Stephanowitz, H., Hirsch, E., Liu, F., Daumke, O., Kudryashev, M., **Haucke, V. (2022)** Structural basis of PI3KC2a function. *Nat Struct Mol Biol.* **29**, 218-228; doi: 10.1038/s41594-022-00730-w.
3. Kuijpers, M., Kochlamazashvili, G., Stumpf, A., Puchkov, D., Swaminathan, A., Lucht, M.T., Krause, E., Schmitz, D., **Haucke, V. (2021)** Neuronal autophagy regulates presynaptic neurotransmission by controlling the axonal endoplasmic reticulum. *Neuron* **109**, 299-313
4. Lopez-Hernandez, T., Puchkov, D., Krause, E., Maritzen, T., **Haucke, V. (2020)** Endocytic regulation of cellular ion homeostasis controls lysosome biogenesis. *Nat Cell Biol.* **22**, 815-27. doi: 10.1038/s41556-020-0535-7.
5. Wallroth, A., Koch, P.A., Marat, A.L., Krause, E., **Haucke, V. (2019)** Protein kinase N controls a lysosomal lipid switch to facilitate nutrient signaling via mTORC1. *Nature Cell Biol.* **21**, 1093-1101. doi: 10.1038/s41556-019-0377-3
6. Marat, A.L., Wallroth, A., Lo, W., Müller, R., Norata, G.D., Falsaca, M., Schultz, C., **Haucke, V. (2017)** mTORC1 activity repression by late endosomal phosphatidylinositol 3,4-bisphosphate. *Science* **356**, 968-972 (see commentary by Raiborg & Stenmark (2017) *EMBO J.* [doi: 10.15252/embj.201797469])
7. Ketel, K., Krauss, M., Nicot, A.S., Puchkov, D., Wieffer, M., Müller, R., Subramanian, D., Schultz, C., Laporte, J., **Haucke, V. (2016)** A phosphoinositide conversion mechanism for exit from endosomes. *Nature* **529**, 408-412 (see commentary by Balla (2016) *Nature* [doi: 10.1038/nature16868])
8. Kononenko, N.L., Puchkov, D., Classen, G.A., Walter, A., Pechstein, A., Sawade, L., Kaempfer, N., Trimbuch, T., Lorenz, D., Rosenmund, C., Maritzen, M., **Haucke, V. (2014)** Clathrin/ AP-2 mediate synaptic vesicle reformation from endosome-like vacuoles but are not essential for membrane retrieval at central synapses. *Neuron* **82**, 981-988
9. Posor, Y., Eichhorn-Grünig, M., Puchkov, D., Schöneberg, J., Ullrich, A., Lampe, A., Müller, R., Zerbakhsh, Gulluni, F., Hirsch, E., Krauss, M., Schultz, C., Schmoranzner, J., Noe, F., **Haucke, V. (2013)** Spatiotemporal Control of Endocytosis by Phosphatidylinositol 3,4-Bisphosphate. *Nature* **499**, 233-237 (see commentary by Schmid & Mettlen (2013) *Nature* [doi: 10.1038/nature12408])
10. von Kleist, L., Stahlschmidt, W., Bulut, H., Gromova, K., Puchkov, D., Robertson, M., MacGregor, K.A., Tomlin, N., Pechstein, A., Chau, N., Chircop, M., Sakoff, J., von Kries, J., Saenger, W., Kräusslich, H.-G., Shupliakov, O., Robinson, P., McCluskey, A., **Haucke, V. (2011)** Role of the clathrin terminal domain in regulating coated pit dynamics revealed by small molecule inhibition. *Cell* **146**, 471-484

Publications in Peer-Reviewed Journals

2022

232. Jang, W., Puchkov, D., Samsó, P., Liang, Y.T., Nadler-Holly, M., Sigríst, S.J., Kintscher, U., Liu, F., Mamchaoui, K., Mouly, V., **Haucke, V. (2022)** Endosomal lipid signalling reshapes the endoplasmic reticulum to control mitochondrial function. *Science* **378**, eabq5209 (2022). DOI: 10.1126/science.abq5209 (see perspective by Zanellati & Cohen in *Science*, **378** (6625), DOI: 10.1126/science.adf5112)
231. Matthaeus, C., Sochacki, K.A., Dickey, A., Puchkov, D., **Haucke, V.**, Lehmann, M., Taraska, J.W. (2022) The molecular organization of flat and curved caveolae indicates bendable structural units at the plasma membrane. *Nat Commun*, 13, 7234. doi: 10.1038/s41467-022-34958-3.
230. Lo, W.T., Belabed, H., Küçükdisli, M., Metag, J., Roske, Y., Prokofeva, P., Ohashi, Y., Horatschek, A., Cirillo, D., Krauss, M., Schmied, C., Neuenschwander, M., von Kries, J., Médard, G., Kuster, B., Perisic, O., Williams, R.L., Daumke, O., Payrastré, B., Severin, S., Nazaré, M.\* **Haucke, V.\* (2022)** Development of selective inhibitors of phosphatidylinositol 3-kinase C2 $\alpha$ . *Nat Chem Biol* doi: 10.1038/s41589-022-01118-z. Online ahead of print (Sep 15)
229. Viard, J. et al., **Haucke, V.** et al Lepagnol-Bestel (2022) Chr21 protein-protein interactions: enrichment in proteins involved in intellectual disability, autism, and late-onset Alzheimer's disease. *Life Sci Alliance* **5**, e202101205. doi: 10.26508/lsa.202101205.
228. Gonschior, H., Schmied, C., van der Veen, R.E., Eichhorst, J., Himmerkus, N., Piontek, J., Günzel, D., Bleich, M., Furuse, M., **Haucke, V.**, Lehmann, M. (2022) Nanoscale segregation of channel and barrier claudins enables paracellular ion flux. *Nat Commun* **13**, 4985
227. Samsó, P.\* Koch, P.A.\* Posor, Y., Lo, W.T., Belabed, H., Nazare, M., Laporte, J., **Haucke, V. (2022)** Antagonistic control of active surface integrins by myotubularin and phosphatidylinositol 3-kinase C2 $\beta$  in a myotubular myopathy model. *Proc Natl Acad Sci USA* **119**, e2202236119
226. Posor, Y., Kamyli, C., Bilanges, B., Koch, P.A., Wallroth, A., Morelli, D., Jenkins, M., Alliouachene, S., **Haucke, V.**, Vanhaesebroeck, B. (2022) Local synthesis of phosphatidylinositol-3,4-bisphosphate drives focal adhesion turnover. *Dev Cell* **57**, 1694-1711.e7.
225. Posor, Y.\* Jang, W.\* **Haucke, V. (2022)** Phosphoinositides as membrane organizers. *Nat Rev Mol Cell Biol* **23**, 797-816. doi: 10.1038/s41580-022-00490-x
224. Gozzelino, L.\* Kochlamazashvili, G.\* Baldassari, S.\* Mackintosh, A.I., Licchetta, L., Iovino, E., Liu, Y.C., Regan, B.M., Bennett, M.F., Damiano, J.A., Zsurka, G., Marconi, C., Giangregorio, T., Magini, P., Maritzen, T., Norata, G.D., Baulac, S., Canafoglia, L., Seri, M., Tinuper, P., Scheffer, I.E., Bahlo, M., Berkovic, S.F., Hildebrand, M.S., Kunz, W.S., Giordano, L., Bisulli, F., Epi25 Collaborative, Martini, M.°, **Haucke, V.°**, Hirsch, E.°, Pippucci, T.° (2022) Defective lipid signaling caused by mTOR-activating ultra-rare variants in *PIK3C2B* underlies sporadic focal epilepsy. *Brain* **145**, 2313-2331. doi: 10.1093/brain/awac082.[°co-corresponding last authors]

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223. Azarnia Tehran, D., Kochlamazashvili, G., Pampaloni, N.P., Sposini, S., Shergill, J.K., Lehmann, M., Pashkova, N., Schmidt, C., Löwe, D., Napieczynska, H., Heuser, A., Plested, A.J.R., Perrais, D., Piper, R.C., **Haucke, V.\***, Maritzen, T.\* (2022) Selective Endocytosis of Ca<sup>2+</sup>-permeable AMPARs by the Alzheimer's Disease Risk Factor CALM Bidirectionally Controls Synaptic Plasticity. *Science Advances* **8**, eabl5032 [\*co-corresponding last authors]
222. Lo, W.T., Zhang, Y., Vadas, O., Belabed, H., Roske, Y., Gulluni, F., De Santis, M.C., Vujicic Zagar, A., Stephanowitz, H., Hirsch, E., Liu, F., Daumke, O., Kudryashev, M., **Haucke, V.** (2022) Structural basis of PI3KC2 $\alpha$  function. *Nat Struct Mol Biol.* **29**, 218-228; doi: 10.1038/s41594-022-00730-w.
221. Li, H., Prever, L., Hsu, M.Y., Lo, W.T., Margaria, J.P., De Santis, M.C., Zanini, C., Forni, M., Novelli, F., Pece, S., Di Fiore, P.P., Porporato, P.E., Martini, M., Belabed, H., Nazare, M., **Haucke, V.**, Gulluni, F., Hirsch, E. (2022) Phosphoinositide conversion inactivates R-Ras and drives metastases in breast cancer. *Adv. Sci.* **9**, e2103249. doi: 10.1002/advs.202103249.
220. Liu, G.T., Kochlamazashvili, G., Puchkov, D., Müller, R., Schultz, C., Mackintosh, A.I., Vollweiter, D., **Haucke, V.\***, Soykan, T.\* (2022) Endosomal phosphatidylinositol 3-phosphate levels control presynaptic vesicle cycling and neurotransmission. *EMBO J*, **41**, e109352 [\*co-corresponding last authors, both from Haucke lab]
219. Malek, M., **Haucke, V.** (2022) Inositol triphosphate signaling triggers lysosome biogenesis via calcium release from endoplasmic reticulum stores. *Contact* **5**, 251525642210970. doi: 10.1177/25152564221097052.
218. Birke, R., Ast, J., Roosen, D.A., Lee, J., Roßmann, K., Huhn, C., Mathes, B., Jones, B., Lehmann, M., Levitz, J., **Haucke, V.**, Broichhagen, J. (2022) Sulfonated red and far-red rhodamines to visualize SNAP- and Halo-tagged cell surface proteins. *Org. Biomol. Chem* **20**, 5967-5980. doi: 10.1039/d1ob02216d.
217. Lopez-Hernandez, T., Takenaka, K., Mori, Y., Kongpracha, P., Nagamori, S., **Haucke, V.\***, Takamori, S.\* (2022) Clathrin-independent endocytic retrieval of SV proteins mediated by the clathrin adaptor AP-2 at mammalian central synapses. *eLife* **11**, e71198. doi: 10.7554/eLife.71198 [\*co-corresponding last authors]
216. Malek, M., Wawrzyniak, A.M., Ebner, M., Puchkov, D., **Haucke, V.** (2022) Inositol triphosphate-triggered calcium release from the endoplasmic reticulum triggers lysosome biogenesis via TFEB/ TFE3. *J. Biol. Chem.* **298**, 101740 doi:10.1016/j.jbc.2022.101740.

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215. Hostachy S., Utesch T., Franke K., Dornan G.L., Furkert D., Türkaydin B., **Haucke V.**, Sun H., Fiedler D. (2021) Dissecting the activation of insulin degrading enzyme by inositol pyrophosphates and their bisphosphonate analogs. *Chem Sci.* **12**, 10696-10702. doi: 10.1039/d1sc02975d.
214. Gulluni, F., Prever, L., Li, H., Krafcikova, P., Corrado, I., Lo, W.T., Margaria, J.P., Chen, A., De Santis, M.C., Cnudde, J.C., Fogerty, J., Yuan, A., Massarotti, A., Sarijalo, N. T., Vadas, O., Williams, R.L., Thelen, M., Powell, D.R., Schueler, M., Wiesener, M.S., Balla, T., Baris, H.N., Tiosano, D., McDermott Jr, B.M., Perkins, B.D., Ghigo, A., Martini, M., **Haucke, V.**, Boura, E., Merlo, G.R., Buchner, D.A., Hirsch, E. (2021)

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- PI(3,4)P<sub>2</sub>-mediated cytokinetic abscission prevents early senescence and cataract formation. *Science* **374** (6573):eabk0410
213. **Haucke, V. (2021)** A mechanochemical mechanism couples exocrine secretion to endocytic membrane retrieval. *Dev Cell* **56**, 1557-1559.
212. Malek, M., Wawrzyniak, A.M., Koch, P., Lüchtenborg, C., Hessenberger, M., Sachsenheimer, T., Jang, W., Brügger, B., **Haucke, V. (2021)** Inositol triphosphate-triggered calcium release blocks lipid exchange at endoplasmic reticulum-Golgi contact sites. *Nat Commun.* **12**, 2673. doi: 10.1038/s41467-021-22882-x
211. Witkowska, A., **Haucke, V. (2021)** Liquid-like protein assemblies initiate endocytosis. *Nat Cell Biol* **23**, 301-302. doi: 10.1038/s41556-021-00665-2.
210. Soykan T., **Haucke V.\***, Kuijpers M.\* **(2021)** Mechanism of synaptic protein turnover and its regulation by neuronal activity. *Curr Op Neurobiol* **69**, 76-83
209. Guerrero-Valero, M., Grandi, F., Cipriani, S., Alberizzi, V., Di Guardo, R., Chicanne, G., Sawade, L., Bianci, F., Del Carro, U., De Curtis, I., Pareyson, D., Parman, Y., Schenone, A, **Haucke, V.**, Payrastre, B., Bolino, A. **(2021)** Dysregulation of myelin synthesis and actomyosin function underlies aberrant myelin in CMT4B1 neuropathy. *Proc Natl Acad Sci USA* **118**, e2009469118.
208. Koch, P.A., Dorman, G.L., Hessenberger, M., **Haucke, V. (2021)** The molecular mechanisms mediating class II PI 3-kinase function in cell physiology. *FEBS J.* doi: 10.1111/febs.15692. Online ahead of print.
207. Kuijpers M, Haucke V. **(2021)** Neuronal autophagy controls the axonal endoplasmic reticulum to regulate neurotransmission in healthy neurons. *Autophagy* **17**, 1049-1051. doi: 10.1080/15548627.2021.1893569.
206. Klionsky, D.J. et al., **Haucke, V.** et al **(2021)** Guidelines for the Use and Interpretation of Assays for Monitoring Autophagy, *Autophagy* **17**, 1-382
205. Kuijpers, M., Kochlamazashvili, G., Stumpf, A., Puchkov, D., Swaminathan, A., Lucht, M.T., Krause, E., Schmitz, D., **Haucke, V. (2021)** Neuronal autophagy regulates presynaptic neurotransmission by controlling the axonal endoplasmic reticulum. *Neuron* **109**, 299-313 doi: 10.1016/j.neuron.2020.10.005
204. Rizalar, F. S., Roosen, D., **Haucke, V. (2021)** A presynaptic perspective on transport and assembly mechanisms for synapse formation. *Neuron* **109**, 27-41 doi:10.1016/j.neuron.2020.09.038
203. Kuijpers M., Azarnia Tehran D., **Haucke V.\***, Soykan T.\* **(2021)** The axonal endolysosomal and autophagic systems. *J Neurochem.* **158**,589–602
- 2020**
202. Posor, Y., **Haucke, V. (2020)** A Golgi-associated lipid kinase controls peripheral nerve myelination. *Proc Natl Acad Sci USA* **117**, 30873-30875.
201. Lopez-Hernandez, T., **Haucke, V.\***, Maritzen, T.\* **(2020)** Endocytosis in the adaptation to cellular stress. *Cell Stress* **4**, 230-247. doi: 10.15698/cst2020.10.232.

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200. Lopez-Hernandez, T., Maritzen, T., **Haucke, V. (2020)** Ramping up the autophagy-lysosome system to cope with osmotic stress. *Autophagy* **16**, 1921-1922. doi: 10.1080/15548627.2020.1798065
199. Liu, H., Paddock, M.N. Wang, H., Murphy, C.J., Geck, R.C., Navarro, A.J., Wulf, G.M., Elemento, O., **Haucke, V.**, Cantley, L.C., Toker, A. (2020) The INPP4B Tumor Suppressor Modulates EGFR Trafficking and Promotes Triple Negative Breast Cancer. *Cancer Discov.* **10**, 1226-1239. doi: 10.1158/2159-8290
198. Lopez-Hernandez, T., Puchkov, D., Krause, E., Maritzen, T., **Haucke, V. (2020)** Endocytic regulation of cellular ion homeostasis controls lysosome biogenesis. *Nat Cell Biol.* **22**,815-27. doi: 10.1038/s41556-020-0535-7.
197. Sawade, L., Grandi, F., Mignanelli, M., Patiño-López, G., Klinkert, K., Langa -Vives, F., Di Guardo, R., Echard, A., Bolino, A., **Haucke, V. (2020)** Rab35-regulated lipid turnover by myotubularins represses mTORC1 activity and controls myelin growth. *Nat. Commun.* **11**, 2835. doi: 10.1038
196. Gowrisankaran, S., Houy, S., Peña del Castillo, J.G., Steubler, V., Gelker, M., Jana Kroll, J., Pechstein, A., Schwitters, D., Halbsgut, N., Pinheiro, P.S., van Weering, J.R.T., Maritzen, T., **Haucke, V.**, Raimundo, N., Sørensen, J.B., Milosevic, I. (2020) Endophilin-A coordinates priming and fusion of neurosecretory vesicles via intersectin. *Nat. Commun.* **11**, 1266
195. Bertović, I., Kurelić, R., Milošević, I., Bender, M., Krauss, M., **Haucke, V.**, Jurak Begonja, A. (2020) Vps34 derived phosphatidylinositol 3-monophosphate modulates megakaryocyte maturation and proplatelet production through late endosomes/lysosomes. *J Thromb. Haemost.* **18**, 1756-1772.
194. Jäpel, M. Sakaba, T., Gerth, F., Bacetic, J., Koo, S.J., Maritzen, T., Freund C., **Haucke, V. (2020)** Intersectin-mediated clearance of SNARE complexes is required for fast neurotransmission. *Cell Rep.* **30**, 409–420.e6 doi: 10.1016/j.celrep.2019.12.035.
193. Pechstein, A., Tomilin, N., Fredricc, K., Vorontsova, O., Sopova, E., Evergren, E., **Haucke, V.**, Brodin, L., Shupliakov, O. (2020) Vesicle Clustering in a Living Synapse Depends on a Synapsin Region That Mediates Phase Separation. *Cell Rep.* **30**, 2594-2602.e3
192. Matthäus, C., Lahmann, I., Kunz S., Jonas, W., Alves de Melo, A., Lundmark R., Lehmann, M., **Haucke, V.**, Müller, D., Schürmann, A., Birchmeier-Kohler, C., Daumke, O. (2020) EHD2-mediated caveolar dynamics is crucial for lipid uptake and obesity. *Proc Natl Acad Sci USA* **117**, 7471-7481.
191. Stanifer, M.L., Muenchau, S., Mukenhirn, M., Pervolaraki, K., Kanaya, T., Albrecht D., Odendal, C., Hielscher, T., **Haucke, V.**, Kagan, J., Bartfeld, S., Ohno, H., Boulant, S. (2020) Cellular Asymmetric distribution of TLR3 leads to a polarized immune response in human intestinal epithelial cells. *Nat. Microbiol.* **5**, 181-191. doi: 10.1038/s41564-019-0594-3.
190. Wang, H., Loerke, D., Bruns, C., Müller, R., Koch, P.A., Puchkov, D., Schultz, C., **Haucke, V. (2020)** Phosphatidylinositol 3,4-bisphosphate synthesis and turnover are spatially segregated in the endocytic pathway. *J Biol Chem.* **295**, 1091-1104.



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189. Maglione, M., Kochlamazashvili, G., Eisenberg, T., Rácz, B., Michael, E., Toppe, D., Stumpf, A., Wirth, A., Zeug, A., Müller, A.E., Moreno-Velasquez, L., Sammons, R.P., Hofer S.J., Madeo, F., Maritzen, T., Maier, N., Ponimaskin, E., Schmitz, D., **Haucke, V.\***, Sigrist, S.J.\* (2019) Spermidine protects from age-related synaptic alterations at hippocampal mossy fiber-CA3 synapses. *Scientific Reports* **9**, 19616 <https://doi.org/10.1038/s41598-019-56133-3> [\*co-corresponding last authors]
188. Lehmann, M., Lukonin, I., Noé F., Schmoranzler, J., Clementi, C., Loerke, D., **Haucke, V. (2019)** Nanoscale coupling of endocytic pit growth and stability. *Science Advances* **5**, eaax5775
187. Wallroth, A., Koch, P.A., Marat, A.L., Krause, E., **Haucke, V. (2019)** Protein kinase N controls a lysosomal lipid switch to facilitate nutrient signaling via mTORC1. *Nature Cell Biol.* **21**, 1093-1101. doi: 10.1038/s41556-019-0377-3
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**Invited Lectures & Conferences 2010 - 2022 (selection)**

(named and plenary lectures highlighted by \*)

03/2010	Singapore Lipid Symposium, Singapore
05/2010	Max-Planck Institute for Biophysical Chemistry, Göttingen
05/2010	Center for Molecular Neurobiology (ZMNH), Hamburg
06/2010	Vesicle Transport & Cancer Symposium, Turku, Finland
06/2010	Dept. of Pharmacology, Univ. of Washington, Seattle, USA
06/2010	Taub Center, Columbia Univ., New York, USA
06/2010	GRC "Lysosomes & Endocytosis", Andover, NH, USA
07/2010	GRC "Cell Biology of the Neuron", Waterville Valley, NH, USA
09/2010	Cancer Research UK, London, UK
10/2010	ESF EuroMembrane Workshop on Lipids, Italy
02/2011	Biotechnology Center, Univ. of Helsinki, Finland
02/2011	Max Planck Institute for Molecular Physiology, Dortmund
02/2011	Biotechnology Center, Univ. of Helsinki, Finland
*03/2011	11th Hunter Symposium, Hunter Valley, NSW, Australia
06/2011	SFB Meeting on "Cell Dynamics", Münster, Germany
09/2011	The 3rd EMBO Meeting, Vienna, Austria
09/2011	OIST International Meeting on "Presynaptic function", Okinawa, Japan
09/2011	European Neuroscience Institute Symposium, Göttingen
10/2011	Symposium on Calcium Signaling, Homburg
10/2011	ESF Meeting EuroSynapse, Turku, Finland
*11/2011	"The Killam Lecture", McGill University, Montreal, Canada
11/2011	Yale University School of Medicine Program in Cellular Neuroscience, Neurodegeneration and Repair, New Haven, CT, USA
03/2012	EuroMembrane Workshop, Turku, Finland
04/2012	Schizophrenia International Research Society, Florence, Italy
06/2012	International Conference "Membrane Dynamics in Physiology and Disease", Basel, Switzerland

## **CV - Volker Haucke, Ph.D.**

09/2012	International Symposium Protein Trafficking in Health and Disease, Hamburg
10/2012	International SFB/Transregio 83 Symposium, Heidelberg
10/2012	University of Düsseldorf
11/2012	Center vor Human Genetics & VIB, Leuven, Belgium
12/2012	JSPS Symposium on Synaptic Transmission, Kyoto, Japan
01/2013	Department of Biochemistry, University of Mainz
02/2013	Annual Meeting of the Biophysical Society, Philadelphia, USA
03/2013	Meeting of the German Neuroscience Society, 3rd Schram Foundation Symposium, Neuronal Differentiation, Synapses and Neural Circuits, Göttingen
04/2013	Symposium on Exo-Endocytic Coupling; International Society for Neurochemistry, Cancun, Mexico
04/2013	Annual Meeting of the American Society for Biochemistry & Molecular Biology (ASBMB), Boston, USA
04/2013	Biochemistry Center (BZH), University of Heidelberg
05/2013	University of Torino, Molecular Biotechnology Center, Torino, Italy
06/2013	SFB 803 & Faculty of Chemistry, University of Göttingen
09/2013	International Symposium on Cellular Microcompartments, Osnabrück
10/2013	Janelia Conference on Synaptic Vesicle Biogenesis, Janelia Farm, MD, USA (co-organizer)
10/2013	International Symposium on Membrane Kinesis, Frankfurt
10/2013	EMBL, Heidelberg
11/2013	Cancer Research UK, London, UK
12/2013	Annual Symposium of the NeuroNetwork, Mainz
01/2014	9th Annaberg Conference (EMBO Workshop), Goldegg, Austria
02/2014	Laboratory for Molecular Biology (LMB) & Cambridge Institute for Medical Research (CIMR), Cambridge, UK
03/2014	EMBO Conference "Signaling to and from Endomembranes", Konstanz, Germany
03/2014	"The Active Zone Meeting", Würzburg, Germany

### **CV - Volker Haucke, Ph.D.**

03/2014	International conference on "Membranes and Modules", Berlin, Germany
04/2014	Neuroscience Winter Conference, Sölden, Austria
*04/2014	"Perspectives in Molecular Medicine Lecture", Goethe-Universität Frankfurt am Main, Germany
05/2014	16th European Congress for Endocrinology, Wroclaw, Poland
05/2014	IGBM, Strasbourg, France
06/2014	International Conference on "Membrane Dynamics", Münster, Germany
06/2014	Gordon Conference "Cell Biology of the Neuron", NH, US
08/2014	International LIN Symposium on "Synaptic function and synaptic pathology in disease", Tangermünde, Germany
10/2014	SFB 638 International Symposium "Macromolecular Complexes in Biosynthetic Transport", Heidelberg, Germany
10/2014	"39th Symposium on Hormone and Cell Regulation", Mont Saint-Odile/ Strasbourg, France
10/2014	The EMBO Meeting, Heidelberg, Germany
10/2014	Cell Biology Meeting, Utrecht, Netherlands
12/2014	American Society for Cell Biology (ASCB) Annual Meeting, Philadelphia (Invited Chair for Membrane Traffic)
01/2015	Keystone Symposia on Molecular and Cellular Biology 2015, PI 3-Kinase Signaling Pathways in Disease, Vancouver, Canada
05/2015	18 <sup>th</sup> Annual Meeting Club Exo-Endocytosis, Evian-les-Bains, Switzerland
07/2015	FEBS Meeting, Berlin (Chair of Organizing Committee)
08/2015	25th International Society for Neurochemistry (ISN) Meeting, Cairns, Australia
09/2015	Neuroscience Ireland Conference - Frontiers in Neuroscience: Diseases & Treatments, Dublin, Ireland
09/2015	Symposium "Mechanisms of synaptic transmission", Univ. Paris Descartes
11/2015	Institut de Biologie de l'École Normale Supérieure (IBENS), Paris, France
03/2016	Bristol Biochemistry Colloquium, Univ. of Bristol, UK
05/ 2016	Chorea-Acanthocytosis & Vesicular-Vacuolar Transport, Ann Arbor, MI, USA

**CV - Volker Haucke, Ph.D.**

- 06/2016 Gordon Conference "Lysosomes & Endocytosis", NH, USA
- 07/2016 FENS/ IBRO CAJAL Advanced course 'Neuronal Cell Biology - Cytoskeleton and Trafficking', Bordeaux, France
- 07/2016 FASEB Summer Conference "Phospholipid Signaling", Steamboat Springs, CO, USA
- 09/2016 National Institutes of Health Neuroscience Seminar Series, Bethesda, MD, USA
- 09/2016 JSPS core-to-core symposium Okinawa Institute of Science and Technology, Okinawa, Japan
- 11/2016 GdCh Kolloquium, Univ. of Kaiserslautern, Germany
- 11/ 2016 Workshop on PI3K Biology, Univ. College London (UCL), UK
- 12/2016 Invited Lecture, Medical University Lübeck, Germany
- 01/2017 Keystone Conference "PI3K Pathways in Immunology, Growth Disorders and Cancer", Santa Fe, New Mexico, USA
- 04/2017 Jacques Monod Conference on "Membrane remodelling & organization", Roscoff, France
- 04/2017 ASBMB Annual Meeting 2017, Chicago, IL, USA
- 05/2017 EMBO Conference "Cell Biology of the Neuron: Polarity, Plasticity and Regeneration", Crete, Greece
- 05/2017 EMBO|EMBL SYMPOSIUM: Molecular and Cell Biology of Membranes, EMBL, Heidelberg, Germany
- 06/2017 International Symposium on Protein Trafficking in Health and Disease, Hamburg, Germany
- 07/2017 EMBO Practical Course "Protein-Lipid interactions: Advanced experimental and computational tools", Helsinki, Finland
- 07/2017 "International Symposium Imaging Frontiers" (ISIF 2017), Tokyo, Japan
- 07/2017 EMBO "Europhosphatase Conference 2017", Paris, France
- 10/2017 Chilean Cell Biology Meeting, Puerto Varas, Chile
- 10/2017 Symposium on Presynaptic Function, Catholic University, Santiago de Chile, Chile
- 12/2017 Symposium on Synaptic Transmission, Kyoto, Japan
- 12/2017 The Hebrew University of Jerusalem, Jerusalem, Israel
- 02/ 2018 Keystone Symposium on "New Therapeutic Targets beyond Class I PI3K", Taos, New Mexico, USA

## **CV - Volker Haucke, Ph.D.**

- 02/2018 Distinguished Seminar, The Beatson Institute for Cancer Research, Glasgow, UK
- 03/2018 EMBO Conference on "Neural Development", Taipeh, Taiwan
- 04/2018 EU-ITN Workshop on "Imaging and manipulating phospholipids", Berlin, Germany (main organizer)
- 05/2018 EMBO Workshop "Lysosomes and Metabolism", Naples, Italy
- 05/ 2018 Biochemistry Center Heidelberg (BZH) Lecture, Heidelberg, Germany
- 06/2018 Gordon Conference "Cell Biology of the Neuron", Waterville Valley, New Hampshire, USA
- 07/2018 FASEB Conference on Phospholipids: Dynamic Lipid Signaling in Health& Disease, Steamboat Springs, CO, USA
- 09/2018 Cajal Workshop on the "Cell Biology of Neurons", Bordeaux, France (main organizer)
- 09/2018 International conference "Membranes and Modules", Berlin, Germany (co-organizer)
- 10/ 2018 Workshop on "The cell biology behind the oncogenic PIP3 lipids", Baeza, Spain
- 10/ 2018 Cold Spring Harbor meeting on "Nutrient Signaling", CSH, New York, USA
- 11/2018 TIGEM - Telethon Institute of Genetics and Medicine, Naples, Italy
- 12/2018 Symposium on Synaptic Transmission, Kyoto, Japan
- 01/2019 MRC Laboratory for Molecular Cell Biology (LMCB), London, UK
- 02/2019 Main organizer of the Leibniz Research Alliance (LRA) Healthy Ageing Symposium, Berlin, Germany
- 03/2019 "Armin Schram Lecture "of the German Neuroscience Society, 13th Annual Meeting, Göttingen, Germany
- 04/2019 Joint meeting of the British Societies of Cell Biology (BSCB) and Developmental Biology (BSDB), Warwick, UK
- 04/2019 Spring Meeting of the German Society for Biochemistry & Molecular Biology (GBM), Mosbach, Germany
- 04/2019 Symposium on "Membrane Shaping & Remodelling", Xiuning, China
- 08/2019 Plenary Lecture at the International Society for Neurochemistry (ISN)-ASN Meeting, Montreal, Canada
- 09/2019 IBRO Meeting on "Synaptic Function and Neural Circuitry", Busan, South Korea

**CV - Volker Haucke, Ph.D.**

- 10/2019 "40th Symposium on Hormone and Cell Regulation", Mont Saint-Odile/ Strasbourg, France [Plenary Lecturer]
- 10/2019 Workshop on "Alzheimer's and Autophagy", New York, USA
- 04/2020 MRC Laboratory for Molecular Biology, Cambridge, UK [cancelled due to Covid-19]
- 05/2020 Keystone Conference "PI3K and PTEN in Cell Growth & Disease" (main organizer) Hannover, Germany [cancelled due to Covid-19]
- 04/2021 Hospital for Sickkids, Toronto, Canada (virtual)
- 05/2021 Ecole Doctorale De Nice (virtual)
- 05/2021 EMBO Meeting on "Cell Polarity and Membrane Dynamics (virtual)
- 06/2021 Plenary Lecture, "Club Exocytose-Endocytose", France (virtual)
- 09/2021 Italian Association for Cell Biology - Distinguished Lecture Series (virtual)
- 10/2021 Deutsche Gesellschaft für Physiologie, Jahrestagung, Frankfurt/Main, Germany
- 10/ 2021 "TOR de France", Nice, France
- 11/2021 Institute Psychiatry and Neuroscience De Paris, France
- 11/2021 Institute Curie, Paris, France
- 01/2022 Institute Pasteur, Paris, France
- 01/2022 Hopital Necker, Paris, France
- 04/2022 Institut Gustave Roussy, Paris, France
- 04/2022 FTN Seminar, Biozentrum, Johannes Gutenberg Universität, Mainz, Germany
- 05/2022 EMBO meeting "Autophagy in Brain Health and Disease"
- 05/2022 4th Jacques Monod Conference on 'molecular basis for membrane remodelling and organization', Roscoff, France
- 06/2022 The Shutter Lecture, Oregon Health and Science University (OHSU), Portland, Oregon, USA
- 06/2022 Keystone Conference "Neurodegeneration: The biological pathways driving the future of therapeutic development", Keystone, CO, USA
- 06/2022 Quantitative Synaptology, Hannover, Germany
- 08/ 2022 EMBO Workshop, Birth & Fission of Cellular Compartments, Bilbao, Spain

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- 09/2022 University College London (UCL), London, UK, "Feldberg Lecture" (shifted from 2020)
- 10/2022 Quality Control in Life Processes, Frankfurt
- 11/2022 EMBO Workshop on Inositol Lipids, NCBS, Bangalore, India

### Upcoming or shifted due to Covid-19

- 01/2023 Core-to-core Meeting on Neurotransmission, Kyoto, Japan
- 01/2023 French Society for Cell Biology, Cell Biology of the Neuron, Institut Curie, Paris, France
- 01/2023 Institut Pasteur, Course: Molecular Biology of the Cell, Paris, France
- 03/2023 Membranes and Modules (co-organizer), Berlin, Germany
- 05/2023 GRC on Lysosomal Diseases, Castelldefels near Barcelona, Spain
- 06/2023 QBI Symposium, Univ. of California at San Francisco
- 09/2023 EMBO Meeting on "Endocytosis", San Servolo, Venice, Italy
- 05/2024 EMBO Workshop on "Autophagy and Lysosomes in Brain Health and Disease", Sant Feliu de Guixols, Spain (main organizer)