Stanford

Thomas Sudhof

Avram Goldstein Professor in the School of Medicine and Professor, by courtesy, of Neurology and of Psychiatry and Behavioral Sciences

Molecular & Cellular Physiology

Curriculum Vitae available Online

CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Thomas Christian Südhof was born in Göttingen, Germany, on Dec. 22 in 1955, obtained his M.D. and doctoral degrees from the University of Göttingen in 1982. He performed his doctoral thesis work at the Max-Planck-Institut für biophysikalische Chemie in Göttingen with Prof. Victor P. Whittaker on the biophysical structure of secretory granules. From 1983-1986, Südhof trained as a postdoctoral fellow with Drs. Mike Brown and Joe Goldstein at UT Southwestern in Dallas, TX, and elucidated the structure, expression and cholesterol-dependent regulation of the LDL receptor gene. Südhof began his independent career as an assistant professor at UT Southwestern in 1986. When Südhof started his laboratory, he decided to switch from cholesterol metabolism to neuroscience, and to pursue a molecular characterization of synaptic transmission. His work initially focused on the mechanism of neurotransmitter release which is the first step in synaptic transmission, and whose molecular basis was completely unknown in 1986. Later on, Südhof's work increasingly turned to the analysis of synapse formation and specification, processes that mediate the initial assembly of synapses, regulate their maintenance and elimination, and determine their properties. Südhof served on the faculty of UT Southwestern in Dallas until 2008, and among others was the founding chair of the Department of Neuroscience at that institution. In 2008, Südhof moved to Stanford, and became the Avram Goldstein Professor in the School of Medicine at Stanford University. In addition, Südhof has been an Investigator of the Howard Hughes Medical Institute since 1986.

ACADEMIC APPOINTMENTS

- Professor, Molecular & Cellular Physiology
- Professor (By courtesy), Neurology & Neurological Sciences
- Professor (By courtesy), Psychiatry and Behavioral Sciences
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Elected member, National Academy of Sciences (2002)
- Elected foreign member, Royal Society of the UK (2017)
- Elected member, Institute of Medicine (2008)

- Kavli Prize in Neuroscience, Kavli Foundation (2010)
- Elected member, American Academy of Arts and Sciences (2010)
- Lasker~DeBakey Basic Medical Research Award, Albert and Mary Lasker Foundation (2013)
- Nobel Prize in Physiology or Medicine, Nobel Foundation (2013)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Human thought and perception, emotions and actions universally depend on signaling between neurons in the brain. This signalling largely happens at synapses, specialized intercellular junctions formed by pre- and postsynaptic neurons. When stimulated, a presynaptic neuron releases chemical messages#called neurotransmitters# that is recognized by a postsynaptic neuron.

For decades, the majority of neuroscientists focused their research on the postsynaptic neuron and its role in learning and memory. But throughout his career, Thomas Südhof has studied the presynaptic neuron. His collective findings have provided much of our current scientific understanding of presynaptic neuron behavior in neurotransmission and synapse formation. His work also has revealed the role of presynaptic neurons in neuropsychiatric illnesses, such as autism or neurodegenerative disorders.

Born in Germany, Südhof obtained a medical degree from the University of Gottingen in 1982. He became familiar with neuroscience when he performed research for his doctoral degree at the Max Planck Institute for Biophysical Chemistry. His thesis dealt with the release of hormones from adrenal cells, a model of neurotransmitter release.

To expand his knowledge of biochemistry and molecular biology, Südhof started to work in 1983 as a postdoctoral fellow at the laboratories of Michael Brown and Joseph Goldstein at the University of Texas Southwestern Medical Center at Dallas. He cloned the gene for the receptor of LDL (the low-density lipoprotein), a particle in the blood that transports cholesterol. Moreover, his work identified the sequences that mediate the regulation of the LDL receptor gene expression by cholesterol.

In 1986, Südhof started his own laboratory at UT Southwestern. He began his inquiry into the presynaptic neuron. At the time, what scientists mainly knew about the presynaptic neuron was that calcium ions stimulate the release of neurotransmitters from membrane-bound sacs called vesicles into the synapse, in a process that takes less than a millisecond.

But much was unknown: What allowed rapid neurotransmitter release? How did release occur at the specific region of the neuron#the synapse? How did repeated activity change the presynaptic neuron? How did the pre- and postsynaptic neurons come together at the synapse?

Südhof decided to try to answer these questions. Among the discoveries in his 20 years of research, Südhof revealed how synaptotagmin proteins sense calcium and mediate neurotransmitter release from presynaptic neurons. He also defined the molecules that organize release in space and time at a synapse, such as RIMs and Munc13's, and identified central components of the presynaptic machinery that mediate the fusion of synaptic vesicles containing neurotransmitters with the presynaptic plasma membrane, the process that ultimately causes neurotransmitter release, and that is controlled by synaptotagmins.

Südhof's work also revealed how pre- and postsynaptic proteins form physical connections, permitting neurotransmission. Specifically, he identified proteins on presynaptic neurons, called neurexins, and proteins on the postsynaptic neuron, called neuroligins, that bind to each other at the synapse. There are many types of neurexins and neuroligins. Their variable pairing shapes the wide variability in the types of synapses in the brain. Mutations in these proteins severely impair synapse function in mice, and contribute to the pathogenesis of disease such as autism and schizophrenia in humans.

At present, Südhof's lab attempts to build on these findings in defining the relationship between specific synaptic proteins and information processing in the brain, with its concordant manifestations in behavior. This large-scale project attempts to provide insight both into the mechanisms undelying synaptic communication, and the processes causing human disease.

Teaching

COURSES

2019-20

- Neuroscience Molecular Core: NEPR 204 (Win)

2018-19

- Neuroscience Molecular Core: NEPR 204 (Win)

2017-18

- Neuroscience Molecular Core: NEPR 204 (Win)

2016-17

- Neuroscience Molecular Core: NEPR 204 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Mazen Asaad, Becky Shi

Postdoctoral Faculty Sponsor

Zahra Dargaei, Kathlyn Gan, Na Yeon Kim, Kif Liakath-Ali, Rui Lu, Sean Merrill, Amber Nabet, Yi Han Ng, Sabine Probst, Karthik Raju, Rick Sando, Jie Wang, Jinzhao Wang, Mu Zhou

Doctoral Dissertation Advisor (AC)

Sofia Essayan-Perez, Samantha Golf, Anna Khalaj, Cosmos Wang, Roger Zhang

Doctoral Dissertation Co-Advisor (AC)

Konstantin Kaganovsky

Postdoctoral Research Mentor

Alessandra Sclip

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Molecular and Cellular Physiology (Phd Program)
- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Synaptotagmin-1 and -7 Are Redundantly Essential for Maintaining the Capacity of the Readily-Releasable Pool of Synaptic Vesicles.** *PLoS biology*
  Bacaj, T., Wu, D., Burré, J., Malenka, R. C., Liu, X., Südhof, T. C.
  2015; 13 (10)
- **Human Neuropsychiatric Disease Modeling using Conditional Deletion Reveals Synaptic Transmission Defects Caused by Heterozygous Mutations in NRXN1.** *Cell stem cell*

Pak, C., Danko, T., Zhang, Y., Aoto, J., Anderson, G., Maxeiner, S., Yi, F., Wernig, M., Südhof, T. C.
2015; 17 (3): 316-328

- **Neuroligins Sculpt Cerebellar Purkinje-Cell Circuits by Differential Control of Distinct Classes of Synapses.** *Neuron*
  Zhang, B., Chen, L. Y., Liu, X., Maxeiner, S., Lee, S., Gokce, O., Südhof, T. C.
  2015; 87 (4): 781-796
- **ß-Neurexins Control Neural Circuits by Regulating Synaptic Endocannabinoid Signaling.** *Cell*
  Anderson, G. R., Aoto, J., Tabuchi, K., Földy, C., Covy, J., Yee, A. X., Wu, D., Lee, S., Chen, L., Malenka, R. C., Südhof, T. C.
  2015; 162 (3): 593-606
- **Distinct circuit-dependent functions of presynaptic neurexin-3 at GABAergic and glutamatergic synapses.** *Nature neuroscience*
  Aoto, J., Földy, C., Ilcus, S. M., Tabuchi, K., Südhof, T. C.
  2015; 18 (7): 997-1007
- **Synaptic Function of Rab11Fip5: Selective Requirement for Hippocampal Long-Term Depression** *JOURNAL OF NEUROSCIENCE*
  Bacaj, T., Ahmad, M., Jurado, S., Malenka, R. C., Suedhof, T. C.
  2015; 35 (19): 7460-7474
- **Retinoic Acid and LTP Recruit Postsynaptic AMPA Receptors Using Distinct SNARE-Dependent Mechanisms** *NEURON*
  Arendt, K. L., Zhang, Y., Jurado, S., Malenka, R. C., Suedhof, T. C., Chen, L.
  2015; 86 (2): 442-456
- **Generation of induced neuronal cells by the single reprogramming factor ASCL1.** *Stem cell reports*
  Chanda, S., Ang, C. E., Davila, J., Pak, C., Mall, M., Lee, Q. Y., Ahlenius, H., Jung, S. W., Südhof, T. C., Wernig, M.
  2014; 3 (2): 282-296
- **Autism-associated neuroligin-3 mutations commonly impair striatal circuits to boost repetitive behaviors.** *Cell*
  Rothwell, P. E., Fuccillo, M. V., Maxeiner, S., Hayton, S. J., Gokce, O., Lim, B. K., Fowler, S. C., Malenka, R. C., Südhof, T. C.
  2014; 158 (1): 198-212
- **Latrophilins function as heterophilic cell-adhesion molecules by binding to teneurins: regulation by alternative splicing.** *journal of biological chemistry*
  Boucard, A. A., Maxeiner, S., Südhof, T. C.
  2014; 289 (1): 387-402
- **Neurons generated by direct conversion of fibroblasts reproduce synaptic phenotype caused by autism-associated neuroligin-3 mutation.** *Proceedings of the National Academy of Sciences of the United States of America*
  Chanda, S., Marro, S., Wernig, M., Südhof, T. C.
  2013; 110 (41): 16622-16627
- **Ultrahigh-resolution imaging reveals formation of neuronal SNARE/Munc18 complexes in situ.** *Proceedings of the National Academy of Sciences of the United States of America*
  Pertsinidis, A., Mukherjee, K., Sharma, M., Pang, Z. P., Park, S. R., Zhang, Y., Brunger, A. T., Südhof, T. C., Chu, S.
  2013; 110 (30): E2812-20
- **Presynaptic Neurexin-3 Alternative Splicing trans-Synaptically Controls Postsynaptic AMPA Receptor Trafficking** *CELL*
  Aoto, J., Martinelli, D. C., Malenka, R. C., Tabuchi, K., Suedhof, T. C.
  2013; 154 (1): 75-88
- **Synaptotagmin-12 Phosphorylation by cAMP-Dependent Protein Kinase Is Essential for Hippocampal Mossy Fiber LTP** *JOURNAL OF NEUROSCIENCE*
  Kaeser-Woo, Y. J., Younts, T. J., Yang, X., Zhou, P., Wu, D., Castillo, P. E., Suedhof, T. C.
  2013; 33 (23): 9769-9780
- **Rapid single-step induction of functional neurons from human pluripotent stem cells.** *Neuron*
  Zhang, Y., Pak, C., Han, Y., Ahlenius, H., Zhang, Z., Chanda, S., Marro, S., Patzke, C., Acuna, C., Covy, J., Xu, W., Yang, N., Danko, et al
  2013; 78 (5): 785-798
- **Autism-associated neuroligin-3 mutations commonly disrupt tonic endocannabinoid signaling.** *Neuron*
  Földy, C., Malenka, R. C., Südhof, T. C.
  2013; 78 (3): 498-509

- **A neural circuit for memory specificity and generalization.** *Science*
  Xu, W., Südhof, T. C.
  2013; 339 (6125): 1290-1295

- **LTP Requires a Unique Postsynaptic SNARE Fusion Machinery** *NEURON*
  Jurado, S., Goswami, D., Zhang, Y., Minano Molina, A. J., Suedhof, T. C., Malenka, R. C.
  2013; 77 (3): 542-558

- **Complexin Activates Exocytosis of Distinct Secretory Vesicles Controlled by Different Synaptotagmins** *JOURNAL OF NEUROSCIENCE*
  Cao, P., Yang, X., Suedhof, T. C.
  2013; 33 (4): 1714-?

- **Syntaxin-1 N-peptide and H-abc-domain perform distinct essential functions in synaptic vesicle fusion** *EMBO JOURNAL*
  Zhou, P., Pang, Z. P., Yang, X., Zhang, Y., Rosenmund, C., Bacaj, T., Suedhof, T. C.
  2013; 32 (1): 159-171

- **MDGAs interact selectively with neuroligin-2 but not other neuroligins to regulate inhibitory synapse development** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Lee, K., Kim, Y., Lee, S., Qiang, Y., Lee, D., Lee, H. W., Kim, H., Je, H. S., Suedhof, T. C., Ko, J.
  2013; 110 (1): 336-341

- **Native a-synuclein induces clustering of synaptic-vesicle mimics via binding to phospholipids and synaptobrevin-2/VAMP2.** *eLife*
  Diao, J., Burré, J., Vivona, S., Cipriano, D. J., Sharma, M., Kyoung, M., Südhof, T. C., Brunger, A. T.
  2013; 2

- **Local use of geographic information systems to improve data utilisation and health services: mapping caesarean section coverage in rural Rwanda** *TROPICAL MEDICINE & INTERNATIONAL HEALTH*
  Sudhof, L., Amoroso, C., Barebwanuwe, P., Munyaneza, F., Karamaga, A., Zambotti, G., Drobac, P., Hirschhorn, L. R.
  2013; 18 (1): 18-26

- **Candidate autism gene screen identifies critical role for cell-adhesion molecule CASPR2 in dendritic arborization and spine development** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Anderson, G. R., Galfin, T., Xu, W., Aoto, J., Malenka, R. C., Suedhof, T. C.
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- **Systematic mutagenesis of a-synuclein reveals distinct sequence requirements for physiological and pathological activities.** *journal of neuroscience*
  Burré, J., Sharma, M., Südhof, T. C.
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- **Proteasome Inhibition Alleviates SNARE-Dependent Neurodegeneration** *SCIENCE TRANSLATIONAL MEDICINE*
  Sharma, M., Burre, J., Suedhof, T. C.
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- **Inositol hexakisphosphate suppresses excitatory neurotransmission via synaptotagmin-1 C2B domain in the hippocampal neuron** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Yang, S., Shi, Y., Yang, G., Li, Y., Yu, L., Shin, O., Bacaj, T., Suedhof, T. C., Yu, J., Berggren, P.
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- **RIM genes differentially contribute to organizing presynaptic release sites** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Kaeser, P. S., Deng, L., Fan, M., Suedhof, T. C.
  2012; 109 (29): 11830-11835

- **The Presynaptic Active Zone** *NEURON*
  Suedhof, T. C.
  2012; 75 (1): 11-25

- **Neurotransmitter Release at the Thalamocortical Synapse Instructs Barrel Formation But Not Axon Patterning in the Somatosensory Cortex** *JOURNAL OF NEUROSCIENCE*
  Narboux-Neme, N., Evrard, A., Ferezou, I., Erzurumlu, R. S., Kaeser, P. S., Laine, J., Rossier, J., Ropert, N., Suedhof, T. C., Gaspar, P.

2012; 32 (18): 6183-6196

- **Synapses and Alzheimer's disease.** *Cold Spring Harbor perspectives in biology*
  Sheng, M., Sabatini, B. L., Südhof, T. C.
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- **Synaptic cell adhesion.** *Cold Spring Harbor perspectives in biology*
  Missler, M., Südhof, T. C., Biederer, T.
  2012; 4 (4)
- **A novel evolutionarily conserved domain of cell-adhesion GPCRs mediates autoproteolysis** *EMBO JOURNAL*
  Arac, D., Boucard, A. A., Bolliger, M. F., Nguyen, J., Soltis, S. M., Suedhof, T. C., Brunger, A. T.
  2012; 31 (6): 1364-1378
- **High Affinity Neurexin Binding to Cell Adhesion G-protein-coupled Receptor CIRL1/Latrophilin-1 Produces an Intercellular Adhesion Complex** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Boucard, A. A., Ko, J., Suedhof, T. C.
  2012; 287 (12): 9399-9413
- **Distinct Neuronal Coding Schemes in Memory Revealed by Selective Erasure of Fast Synchronous Synaptic Transmission** *NEURON*
  Xu, W., Morishita, W., Buckmaster, P. S., Pang, Z. P., Malenka, R. C., Suedhof, T. C.
  2012; 73 (5): 990-1001
- **Region-specific deletions of RIM1 reproduce a subset of global RIM1a-/- phenotypes** *GENES BRAIN AND BEHAVIOR*
  Haws, M. E., Kaeser, P. S., Jarvis, D. L., SUEDHOF, T. C., Powell, C. M.
  2012; 11 (2): 201-213
- **C-Terminal Complexin Sequence Is Selectively Required for Clamping and Priming But Not for Ca2+ Triggering of Synaptic Exocytosis** *JOURNAL OF NEUROSCIENCE*
  Kaeser-Woo, Y. J., Yang, X., Suedhof, T. C.
  2012; 32 (8): 2877-2885
- **CSPa knockout causes neurodegeneration by impairing SNAP-25 function.** *EMBO journal*
  Sharma, M., Burré, J., Bronk, P., Zhang, Y., Xu, W., Südhof, T. C.
  2012; 31 (4): 829-841
- **Direct conversion of mouse fibroblasts to self-renewing, tripotent neural precursor cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Lujan, E., Chanda, S., Ahlenius, H., Suedhof, T. C., Wernig, M.
  2012; 109 (7): 2527-2532
- **Postsynaptic Complexin Controls AMPA Receptor Exocytosis during LTP** *NEURON*
  Ahmad, M., Polepalli, J. S., Goswami, D., Yang, X., Kaeser-Woo, Y. J., Suedhof, T. C., Malenka, R. C.
  2012; 73 (2): 260-267
- **The membrane fusion enigma: SNAREs, Sec1/Munc18 proteins, and their accomplices--guilty as charged?** *Annual review of cell and developmental biology*
  Rizo, J., Südhof, T. C.
  2012; 28: 279-308
- **Calcium control of neurotransmitter release.** *Cold Spring Harbor perspectives in biology*
  Südhof, T. C.
  2012; 4 (1)
- **Comprehensive qPCR profiling of gene expression in single neuronal cells** *NATURE PROTOCOLS*
  Citri, A., Pang, Z. P., Suedhof, T. C., Wernig, M., Malenka, R. C.
  2012; 7 (1): 118-127
- **Induced Neuronal Cells: How to Make and Define a Neuron** *CELL STEM CELL*
  Yang, N., Ng, Y. H., Pang, Z. P., Suedhof, T. C., Wernig, M.
  2011; 9 (6): 517-525

- **Synaptic Vesicle Exocytosis** *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*
  Suedhof, T. C., Rizo, J.
  2011; 3 (12)
- **Direct Lineage Conversion of Terminally Differentiated Hepatocytes to Functional Neurons** *CELL STEM CELL*
  Marro, S., Pang, Z. P., Yang, N., Tsai, M., Qu, K., Chang, H. Y., Suedhof, T. C., Wernig, M.
  2011; 9 (4): 374-382
- **The neurexin ligands, neuroligins and leucine-rich repeat transmembrane proteins, perform convergent and divergent synaptic functions in vivo** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Soler-Llavina, G. J., Fuccillo, M. V., Ko, J., Suedhof, T. C., Malenka, R. C.
  2011; 108 (40): 16502-16509
- **Rab3B protein is required for long-term depression of hippocampal inhibitory synapses and for normal reversal learning** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Tsetsenis, T., Younts, T. J., Chiu, C. Q., Kaeser, P. S., Castillo, P. E., Suedhof, T. C.
  2011; 108 (34): 14300-14305
- **Autism-linked neuroligin-3 R451C mutation differentially alters hippocampal and cortical synaptic function** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Etherton, M., Foeldy, C., Sharma, M., Tabuchi, K., Liu, X., Shamloo, M., Malenka, R. C., Suedhof, T. C.
  2011; 108 (33): 13764-13769
- **Induction of human neuronal cells by defined transcription factors** *NATURE*
  Pang, Z. P., Yang, N., Vierbuchen, T., Ostermeier, A., Fuentes, D. R., Yang, T. Q., Citri, A., Sebastiano, V., Marro, S., Suedhof, T. C., Wernig, M.
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- **Neuroligins/LRRTMs prevent activity- and Ca2+/calmodulin-dependent synapse elimination in cultured neurons** *JOURNAL OF CELL BIOLOGY*
  Ko, J., Soler-Llavina, G. J., Fuccillo, M. V., Malenka, R. C., Suedhof, T. C.
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- **An autism-associated point mutation in the neuroligin cytoplasmic tail selectively impairs AMPA receptor-mediated synaptic transmission in hippocampus** *EMBO JOURNAL*
  Etherton, M. R., Tabuchi, K., Sharma, M., Ko, J., Suedhof, T. C.
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- **Doc2 Supports Spontaneous Synaptic Transmission by a Ca2+-Independent Mechanism** *NEURON*
  Pang, Z. P., Bacaj, T., Yang, X., Zhou, P., Xu, W., Suedhof, T. C.
  2011; 70 (2): 244-251
- **Activity-Dependent IGF-1 Exocytosis Is Controlled by the Ca2+-Sensor Synaptotagmin-10** *CELL*
  Cao, P., Maximov, A., Suedhof, T. C.
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- **Cerebellins meet neurexins (Commentary on Matsuda & Yuzaki)** *EUROPEAN JOURNAL OF NEUROSCIENCE*
  Martinelli, D. C., Suedhof, T. C.
  2011; 33 (8): 1445-1446
- **The cell-adhesion G protein-coupled receptor BAI3 is a high-affinity receptor for C1q-like proteins** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Bolliger, M. F., Martinelli, D. C., Suedhof, T. C.
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- **Delayed onset of hyperglycaemia in a mouse model with impaired glucagon secretion demonstrates that dysregulated glucagon secretion promotes hyperglycaemia and type 2 diabetes** *DIABETOLOGIA*
  Gustavsson, N., SEAH, T., Lao, Y., Radda, G. K., SUEDHOF, T. C., Han, W.
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  Deng, L., Kaeser, P. S., Xu, W., Suedhof, T. C.

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- **RIM Determines Ca2+ Channel Density and Vesicle Docking at the Presynaptic Active Zone** *NEURON*
  Han, Y., Kaeser, P. S., Suedhof, T. C., Schneggenburger, R.
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- **RIM Proteins Tether Ca2+ Channels to Presynaptic Active Zones via a Direct PDZ-Domain Interaction** *CELL*
  Kaeser, P. S., Deng, L., Wang, Y., Dulubova, I., Liu, X., Rizo, J., Suedhof, T. C.
  2011; 144 (2): 282-295

- **CSP alpha promotes SNARE-complex assembly by chaperoning SNAP-25 during synaptic activity** *NATURE CELL BIOLOGY*
  Sharma, M., Burre, J., Suedhof, T. C.
  2011; 13 (1): 30-U74

- **Activity-dependent synapse validation by neurexin ligands, LRRTMs and neuroligins**
  Ko, J., Sudhof, T. C.
  ELSEVIER IRELAND LTD.2011: E17–E18

- **Testing the SNARE/SM protein model of membrane fusion** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Bacaj, T., Pang, Z. P., Suedhof, T. C.
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- **SynCAM 1 Adhesion Dynamically Regulates Synapse Number and Impacts Plasticity and Learning** *NEURON*
  Robbins, E. M., Krupp, A. J., de Arce, K. P., Ghosh, A. K., Fogel, A. I., Boucard, A., Suedhof, T. C., Stein, V., Biederer, T.
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- **Complexin Clamps Asynchronous Release by Blocking a Secondary Ca2+ Sensor via Its Accessory alpha Helix** *NEURON*
  Yang, X., Kaeser-Woo, Y. J., Pang, Z. P., Xu, W., Suedhof, T. C.
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- **Inactivation of presenilins causes pre-synaptic impairment prior to post-synaptic dysfunction** *JOURNAL OF NEUROCHEMISTRY*
  Zhang, D., Zhang, C., Ho, A., Kirkwood, A., Suedhof, T. C., Shen, J.
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- **Neuronal Calcium Sensor Synaptotagmin-9 Is Not Involved in the Regulation of Glucose Homeostasis or Insulin Secretion** *PLOS ONE*
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  Segovia, M., Ales, E., Angeles Montes, M., Bonifas, I., Jemal, I., Lindau, M., Maximov, A., Suedhof, T. C., de Toledo, G. A.
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- **QnAs with Thomas C. Südhof. Interview by Prashant Nair.** *Proceedings of the National Academy of Sciences of the United States of America*
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  Li, H., Wang, B., Wang, Z., Guo, Q., Tabuchi, K., Hammer, R. E., Suedhof, T. C., Zheng, H.
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- **Genetic Dissection of the Amyloid Precursor Protein in Developmental Function and Amyloid Pathogenesis** *JOURNAL OF BIOLOGICAL CHEMISTRY*
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