Tuesday 15th October 9:00
Inna Slutsky, PhD (Tel Aviv University, Israel)

Dr. Inna Slutsky is an Associate Professor at the Department of Physiology and Pharmacology and the Sagol School of Neuroscience at Tel Aviv University. Her research is focused on understanding the basic mechanisms that maintain synaptic plasticity and memory function and initiate memory dysfunction in Alzheimer’s disease (AD). Using advanced optical imaging, electrophysiology and molecular biology, Slutsky’s team focuses on identifying the mechanisms that drive synaptic and cognitive impairments in AD. Dr. Slutsky and her team discovered how neuronal activity and sensory experience regulate molecular composition of amyloid-beta (Dolev et al., Nature Neurosci, 2013), the physiological role of amyloid-beta (Abramov et al., Nature Neurosci, 2009), the role of magnesium ion in cognitive enhancement (Slutsky et al., Neuron, 2010) and the mechanism triggering synaptic hyperactivity at the earliest AD stages (Gazit et al., Neuron, 2016; Fogel et al., Cell Reports, 2014). Currently, her team is focused on stability mechanisms underlying neural circuit’s functioning (Slomowitz et al., eLife, 2015; Vertkin et al., PNAS, 2015) and firing homeostasis failures as the drivers of AD (Styr & Slutsky, Nature Neurosci 2018; Frere & Slutsky, Neuron 2018).

Dr. Slutsky completed her PhD in the Hebrew University of Jerusalem and post-doctorate studies at MIT. Slutsky is the recipient of the MetLife foundation prize in Alzheimer’s research, Bernard Katz Prize in Neuroscience, Sieratzki Prize in Neuroscience, the New Investigator Award in Alzheimer’s disease from American Federation for Ageing Research, the Sieratzki Prize and the ERC starting and consolidator awards.

Selected Publications:
Tuesday 15th October 11:00
Camin Dean, PhD (European Neuroscience Institute, Germany)

During my doctoral research on synapse formation at the University of California, Berkeley, I discovered that neurexin is the receptor of neuroligin; the neurexin-neuroligin trans-synaptic link acts as a nucleation site to induce bidirectional synapse formation both pre- and post-synaptically (Dean et al. Nat. Neurosci. 2003). My postdoctoral research focused on synapse function, where I discovered that synaptotagmin-4 is on BDNF (brain-derived neurotrophic factor)-containing vesicles and inhibits BDNF release to limit synaptic function and maintain LTP within a functional range necessary for normal learning and memory (Dean et al. Nat. Neurosci. 2009). I began my own lab at the European Neuroscience Institute in Goettingen, Germany after securing a European Research Council starting grant to fund my group. We have continued to study how memory-related circuits encode information. We combine imaging, electrophysiology, biochemistry, and behavior to identify molecules and distinct cell types (specified by molecular composition) that promote remembering or forgetting.

**Selected publications**


Tuesday 15th October 11:45
Joris De Wit, PhD(VIB-KU Leuven Center for Brain & Disease Research, Belgium)

Joris de Wit is group leader and vice director at the VIB-KU Leuven Center for Brain & Disease Research in Leuven, Belgium. His lab studies the molecular and cellular mechanisms that determine where and when specific synaptic connections form, how these connections change with experience, and how they are affected in disease. The lab focuses on the role of cell surface interactions in these processes. Joris de Wit obtained his Master’s degree at Utrecht University, the Netherlands and his PhD degree at VU University, the Netherlands. He performed his postdoctoral work in the labs of Matthijs Verhage (CNCR/VU University, the Netherlands) and Anirvan Ghosh (UCSD, USA). He became group leader at the VIB-KU Leuven Center for Brain & Disease Research in 2013.
Selected Publications:

Wednesday 16th October 11:00
Christophe Leterrier, PhD (Marseille University, France)

Christophe Leterrier has been working on the organization of the axon since his PhD with Zsolt Lenkei in Paris, where he studied the axonal targeting of the CB1 cannabinoid receptor. For his postdoc in Bénédicte Dargent's lab in Marseille, he worked on revealing new cytoskeletal components of the axon initial segment, as well as their nanoscale organization. He started the NeuroCyto lab in 2017, with the aim of deciphering the axonal cytoskeleton architecture using advanced microscopy techniques. The team currently focuses the organization of axonal actin and its partners in order to understand the function of newly discovered axonal actin structures: rings, hotspots and trails.

Selected Publications:
Wednesday 16th October 11:45
Ruud Toonen, PhD (CNCR, Netherlands)

Ruud Toonen did his PhD with Matthijs Verhage in Utrecht on the presynaptic gene, Munc18-1 and subsequently worked with Jurgen Klingauf in Göttingen, Germany. Ruud is now a group leader at CNCR in Amsterdam, The Netherlands working on the presynaptic mechanisms of synaptic plasticity and secretory vesicle dynamics and fusion using mammalian neurons and optical and physiological approaches. During the course, Ruud will instruct neuropeptide trafficking and fusion studies in cultured mouse neurons.

Selected Publications:

Tuesday 17th October 9:00
Monica Di Luca, PhD (University of Milano, Italy)

Monica Di Luca is Professor of Pharmacology and Chair of Neuroscience Center (NeuroNest) the at the University of Milano, where she graduated in Pharmacology. In 1992 she discussed her PhD thesis at the University of Milano, and in 1993 she completed a PhD programme in Molecular Biology at the University of Utrecht. Her primary research interest is related to synaptic plasticity in physiological and pathological conditions, with the primary aim to apply basic findings to the cure of neurodegenerative diseases as Alzheimer and Parkinson Disease. She is author of more than 200 scientific publications on peer reviewed journals; she was and still is coordinator of several European Commission projects from VI framework Programme on, where she always had a clear vision of transdisciplinarity involving all actors including patients organizations at the highest possible level of participation. She has been awarded of several honors including a Laurea Honoris Causa at the Faculty of Medicine and Pharmacy of the University of Mons in 2017 and EMBO membership in 2017 and since 2008 invited member of European Dana Alliance for the Brain. She has been President of Federation of European Neuroscience Societies (FENS) from 2014 to 2016. She is actually President of European Brain Council.

Selected Publications:
- Preface Drug discovery in neurodegenerative disorders: a defeat for pharmacology?
Selected Publications:


Tuesday 17th October 11:00
Julien Dupuis, PhD (University of Bordeaux, France)

Julien Dupuis is an Inserm investigator in the Development and Adaptation of Neuronal Circuits laboratory (http://www.iins.u-bordeaux.fr/research-teams-laurent-groc) at the Interdisciplinary Institute for Neuroscience (Bordeaux, France). Based on a combination of cell / molecular biology, electrophysiology and high resolution imaging approaches, his work is focused on deciphering the contribution of neurotransmitter receptor surface trafficking and interactions to synaptic transmission, cognitive functions and neuropsychiatric diseases. He discovered that quick lateral diffusion-based modifications in the distribution and nano-organization of NMDA glutamate receptors (NMDAR) play a central role in the initiating steps of synaptic plasticity and memory formation, and that these redistribution processes are dynamically regulated by physical interactions between NMDAR and other neurotransmitter receptors such as dopamine receptors. He also contributed to dissect the mechanisms through which NMDA receptor surface redistribution and synaptic stabilization processes are impaired in autoimmunity-related neuropsychiatric diseases

Selected Publications:

Tuesday 17th October 11:45
Alexandre Favereaux, PhD (University of Bordeaux, France)

Alexandre Favereaux is an associate professor in the team central mechanisms of pain sensitization (http://www.iins.u-bordeaux.fr/research-teams-marc-landry) at the Interdisciplinary Institute for Neuroscience (Bordeaux, France). Based on the combination of cellular and molecular biology approaches is work is dedicated to understand how gene regulation can modulate neuronal function. He focused is work on the role of non-coding RNAs (such as miRNAs) in the regulation of neuronal plasticity in physiological (LTP, homeostatic scaling) and pathological conditions (chronic & cancer pain, Alzheimer’s disease). In collaboration with Yves Le Feuvre is now developing single cell RNA-Seq methods to correlate gene expression and electrophysiological properties at the single neuron level.

Selected Publications:

Wednesday 18th October 9:00
Daniel Choquet, PhD (University of Bordeaux, France)

Daniel Choquet obtained an engineering degree from Ecole Centrale (Paris, France) in 1984. He then got attracted to neuroscience and completed his PhD in the lab of Henri Korn at the Pasteur Institute (Paris), studying ion channels in lymphocytes. He got appointed tenure Research officer at the CNRS in 1988. He then performed a post-doctoral/sabbatical at the Duke University (North Carolina, USA) in the laboratory of Michael Sheetz where he studied the regulation of integrin-cytoskeletal linkage by force, and demonstrated that cells can sense and respond to extracellular traction. He then setup his group in Bordeaux (France) at the Institute for Neuroscience where he got a directorship position at the CNRS. He launched an interdisciplinary program on the combination of physiology, cell and chemical biology and high resolution imaging to study the functional role of the dynamic organization and trafficking of neurotransmitter receptors in synaptic transmission. He is now heading the Institute for Interdisciplinary Neuroscience and the Bordeaux Imaging Center core facility. He is also the director of the center of excellence BRAIN, Bordeaux Region Aquitaine Initiative for Neuroscience. He has been the recipient of several awards including the 1990 Bronze Medal from the CNRS, the Research prize from the Fondation pour la Recherche Médicale (FRM), 1997, the Grand Prix from the French Academy of Sciences, Prix du CEA and the 2009 Silver Medal from the CNRS. He is a Member
of the Institut de France, the French Science Academy since November 2010 and Officier de la Légion d’honneur. He has been awarded three ERC advanced grants in 2008, 2013 and 2018. His team develops several research topics, combining neuroscience, physics and chemistry in order to unravel the dynamics and nanoscale organization of multimolecular receptor complexes and their functional role in glutamatergic synaptic transmission. Recently, the team has engaged in a major program to analyse and understand the interplay between AMPA type glutamate receptor nanoscale dynamics, synaptic plasticity and memory formation in the healthy and diseased brain.

Selected Publications:

Wednesday 18th October 11:00
Tara Spires Jones, PhD (University of Edinburgh, United Kingdom)

Tara Spires-Jones is Professor of Neurodegeneration, Deputy Director of the Centre for Brain Sciences, and a UK Dementia Research Institute Programme Lead at the University of Edinburgh. Her research focuses on the mechanisms and reversibility of neurodegeneration in Alzheimer’s disease, other degenerative brain diseases, and ageing. Her work has shown that soluble forms of both of the proteins involved in the neuropathological lesions in Alzheimer’s (amyloid beta and tau) contribute to synapse degeneration, and further that reducing the levels of these can prevent and even reverse degeneration. In addition to her research, Prof Spires-Jones is passionate about communicating scientific findings to the public and policy makers in order to share the joy of our ever-expanding understanding of the brain and to facilitate a productive conversation about the role of science in society. She also advises the Scottish Government on science policy as a member of the Scottish Science Advisory Council.

Selected Publications:

Wednesday 18th October 11:45
Vanessa Morais, PhD (Instituto de Medicina Molecular, Portugal)

My research is focused on the understanding of mitochondria and how they go astray in neurodegeneration. I am a biochemist in training and throughout my career I have specialized in cell biology, in particular in mitochondrial biology. The link between neurodegeneration and mitochondria function is a subject that I find fascinating. Mitochondria homeostasis requires an intimate crosstalk between energy production and intrinsic quality control. At the synapse, mitochondria have a pivotal role in synapse maintenance and neurotransmitter release. Therefore, mitochondrial function is crucial for the maintenance of a healthy brain. Over the years I have pursued this passion by unravelling how synaptic mitochondria have learnt to adapt to their environmental demands and deciphering the mechanisms involved in mitochondrial quality control and bioenergetic adaptation at synapse. In the long run, the overarching goal is to reveal how the disruption of these acquired mechanisms contributes to mitochondrial dysfunction and ultimately to neuronal loss.

Selected Publications:
In many neurodegenerative diseases like Parkinson’s and Alzheimer, synaptic decay precedes neuronal loss. Therefore, synaptic decay is one of the earliest steps in these pathologies. Thus, understanding molecular mechanisms leading to synaptic decay is critical to fully understand neurodegenerative diseases and will serve to identify novel therapies to stop the progression of these diseases before pathological symptoms appear. My research makes use of Drosophila to identify key players having a role in synaptic homeostasis and dysfunction to understand the root of neurodegenerative processes. My current research focus is to decipher the molecular basis of synaptic autophagy, a self-degrading process required to turnover synaptic material, and its implication in Parkinson’s disease.

**Selected publications:**
- The SAC1 domain in Synaptojanin is required for autophagosome maturation at presynaptic terminals. Vanhauwaert et al., EMBO J. 2017
- DLin-7 is required in postsynaptic lamina neurons to prevent light-induced photoreceptor degeneration in Drosophila. Soukup et al., Curr Biol. 2013

**Saturday 19th October 11:00**

**Marion Silies, PhD (European Neuroscience Institute, Germany)**

Marion is a professor for neurobiology at the University of Mainz (Germany), where she is heading the “Neural Circuits” lab. The main interest of her lab is to study the neural mechanisms and circuits of visual computations in the fruit fly Drosophila. To do so, the lab is combining in vivo 2 photon imaging, behavioral techniques, neurogenetics, and molecular approaches. She just started the position in Mainz, after having been a group leader of at the European Neuroscience Institute in Göttingen, Germany, for four years. Between 2009 and 2014, Marion was a postdoc at Stanford University from 2009 - 2014, where she started to work on visual processing. Her background is in neurogenetics and developmental neurobiology and Marion obtained her PhD from the University of Münster in 2009 for her work on neuron-glial interactions in the developing fly nervous system. More information can be found at www.silieslab.com

**Selected Publications:**
Tuesday 22nd October 9:00

Dietmar Schmucker, PhD (Leuven Center for Brain & Disease Research, Belgium)

Prof Schmucker studied at Ludwig Maximilians University in Munich (LMU) and did his Ph.D. at the Max-Planck Institute in Goettingen, Germany. The subject was Drosophila Neurogenetics, his supervisor Dr. H. Jaeckle. He went on to do a 4 year postdoc in Los Angeles with Larry Zipursky, HHMI Investigator at UCLA. At the end of 2001 Prof Schmucker started his own lab as Assistant Professor at Harvard Medical School, Department of Neurobiology, with promotion to Associated Professor in January 2008. Later he got recruited to VIB Leuven at the end of 2009 and has been a group leader at VIB since. For 2019 he was awarded a Alexander von Humboldt Professorship with the opportunity to expand and continue his research at the LIMES and DZNE in Bonn Germany.

Throughout his professional career his research interest was on neuronal wiring, with a focus on genetics, biochemistry and imaging. Prof Schmucker discovered the molecular diversity of the neuronal receptor Dscam1, an alternatively spliced gene providing tens of thousands of receptor isoforms, essential for neuronal self-avoidance and axonal branching. His current studies focus on elucidating mechanisms of axonal branching, axon degeneration/regeneration, CNS synaptogenesis, and membrane receptor function/signaling. His group uses the model organisms Drosophila and Xenopus tropicalis.

Selected Publications:
- Slit and Receptor Tyrosine Phosphatase 69D Confer Spatial Specificity to Axon Branching via Dscam1 Dascenko D*, Erfurth M*, Izadifar A Song M Sachse S Bortnick R Urwyler O Petrovic M Ayaz D He H Kise Y Thomas F Kidd T Schmucker DCELL, 162, 1140-54, 2015* These authors contributed equally
- Axonal wiring in neural development: Target-independent mechanisms help to establish precision and complexity Petrovic M, Schmucker DBIOESSAYS, 37, 996-1004, 2015
neurons and analyze their content by proteomic and other biochemical techniques to purify autophagic vesicles from the mouse brain and cultured neurons.

**Selected Publications:**

**Tuesday 22nd October 11:45**
**Vassiliki Nikoletopoulou, PhD (Institute of Molecular Biology & biotechnology, Greece)**

I established my lab 2 years ago, funded by an ERC starting grant. Our goal is to study the role of autophagy in synaptic function, neural networks and animal behavior. Therefore, a major undertaking is to understand how autophagic degradation contributes to different forms of plasticity. Understanding how autophagy operates in different neuronal populations to shape their synaptic networks and behavioral outcomes can lead to novel interventions for reversing behavioral deficits associated with disorders (such as ASD) implicating autophagy impairment. Moreover, my lab aims to characterize the synaptic cargo of autophagy and understand the molecular mechanisms underlying cargo selectivity. Towards these goals, we have gained expertise in cell and molecular biology tools, confocal and electron microscopy, behavioral tests and mouse genetic models. We have also developed biochemical techniques to purify autophagic vesicles from the mouse brain and cultured neurons and analyze their content by proteomic and other approaches.
Selected publications:


Wednesday 23rd octobre 9:00 Brain Prize Winners

Bart De Strooper, PhD (UK-Dementia Research Institute, United Kingdom)

Bart De Strooper is scientific director of the UK-Dementia Research Institute since October 2016. He is professor of molecular medicine at the KU Leuven and VIB, Belgium and professor in dementia research at the University College London, UK.

Bart De Strooper’s scientific work focuses on the understanding of the fundamental mechanisms that underlie Alzheimer’s and Parkinson’s disease. His major findings are the role of ADAM10 and presenilin/gamma-secretase in the proteolysis of the amyloid precursor protein and Notch, and he has worked on microRNA, mitochondria, and more recently on the role of the different brain cell types in the pathogenesis of Alzheimer’s Disease.

He received his M.D. in 1985 and Ph.D. in 1991 from KU Leuven. He worked as postdoctoral researcher in the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany, in the laboratory of Carlos Dotti.

In 2018, Bart De Strooper, together with John Hardy, Christian Haas and Michel Goedert, was awarded the Brain Prize for their groundbreaking research on the genetic and molecular basis of Alzheimer disease. Other awards include the Potamkin Award of the American Academy of Neurology in 2002 (USA), the 2003 Alois Alzheimer Award of the Deutscher Gesellschaft für Gerontopsychiatrie und psychotherapie (Germany), the Joseph Maisin Prize in 2005 for fundamental biomedical sciences, (FWO Flanders, Belgium), the 2008 Metlife Foundation Award for medical research (USA) and the 2018 European Grand Prix for Research (France).

Selected Publications:


Christian Haass, PhD (Ludwig-Maximilians University, Germany)

Dr. Haass graduated in Molecular Biology at the University of Heidelberg, Germany. He was a postdoc and assistant professor of Neurology at the Harvard Medical School in the institute of Dr. Dennis Selkoe. Since 1999 he is the head of the division of Biochemistry at the Ludwig-Maximilians University and since 2009 he is also the speaker of the German Center for Neurodegenerative Diseases (DZNE) in Munich. Dr. Haass received a number of prestigious awards, among them, the Gottfried Wilhelm Leibniz-Award of the Deutsche Forschungsgemeinschaft, the Potamkin Award of the American Academy of Neurology, an ERC advanced grant, and most recently the brain prize. Dr. Haass is the speaker of the Munich Cluster of Systems Neurology (SyNergy).

Selected Publications:

Saturday 26th October 9:00
Reinhard Jahn, PhD (Max Planck Institute for Biophysical Chemistry, Germany)

Reinhard Jahn studied biology and chemistry at the Universities of Freiburg and Göttingen (doctorate in 1981). He was postdoctoral fellow at Yale and Rockefeller University (1983-1985), and assistant professor at Rockefeller University (1985-1986). Between 1986 and 1991 he was junior research group leader at the Max Planck Institute of Psychiatry in Munich. 1991 he moved to Yale University as associate/full professor for pharmacology and cell biology and as investigator of the Howard Hughes Medical Institute. In 1997 he became Director at the Max Planck Institute for Biophysical Chemistry. He has obtained several awards including the Leibniz-Prize (2000), the Ernst Jung Prize for
Selected Publications:


Saturday 26th October 11:00

Shigeki Watanabe, PhD (Johns Hopkins University, USA)

Shigeki Watanabe studies cellular and molecular mechanisms underlying synaptic transmission and plasticity at the Johns Hopkins University. He has established two novel approaches in electron microscopy. One technique localizes proteins to the subcellular structures by coupling super-resolution imaging with electron microscopy. Another technique, flash-and-freeze, visualizes membrane dynamics in electron micrographs with millisecond temporal resolution by coupling optogenetics with high-pressure freezing. He has discovered that synaptic vesicles are recycled via a two-step process: ultrafast endocytosis followed by clathrin-dependent endosomal sorting. Using the combination of these techniques, his lab is characterizing the cellular and molecular basis of the rapid changes that are essential to synaptic functions.

Selected publication:


Saturday 26th October 11:45
Sha Liu, PhD (Leuven Center for Brain & Disease Research, Belgium)

Sha Liu is a group leader in VIB-KU Leuven, Center for Brain & Disease Research. His lab studies the synaptic and circuit mechanisms underlying sleep homeostasis and the roles of sleep in synaptic plasticity by using multi-disciplinary approaches, including Drosophila genetics, quantitative behavior analysis, electrophysiology, and in vivo functional imaging. Before he started his lab in Belgium, he identified a central sleep homeostatic circuit in the fruit fly brain and demonstrated that synaptic plasticity of this circuit underlies generation and persistence of sleep drive.

Selected Publications:

Monday 28th October 9:00
Claudia Bagni, PhD (University of Lausanne, Switzerland)

My laboratory has a long-lasting interest in the study of intellectual disabilities such as Fragile X Syndrome (FXS), Autism (ASD) and Schizophrenia (SCZ) in which the recurring aspect is the dysregulation of the synaptic proteome. The knowledge we acquire examining molecular mechanisms at the synapses will offer a major inroad into the understanding of processes that govern, not only learning and memory and human behavior, but disorders called “synaptopathies” that arise from malfunctioning synapses. We use rodents, patients’ cells and recently Drosophila. FXS, ASD and SCZ are still without an effective cure and we aim, ultimately with the use of biological models, human stem cells and in collaboration with clinical researchers, to develop possible pharmacological approaches to modulate some aspects of these synaptopathies.

Selected Publication:
- A Synaptic Perspective of Fragile X Syndrome and Autism Spectrum Disorders. 

Monday 28th October 11:00
Xavi Altafaj, PhD(Bellvitge Biomedical Research Institute, Spain)

Team Leader "Neurobiology of ionotropic Glutamate receptors in health and disease" Group, at Bellvitge Biomedical Research Institute (IDIBELL), Barcelona, Spain.

After obtaining his degree in Molecular Biology (University of Barcelona, 1997) he developed a Functional Genomics study of Down syndrome (PhD degree Univ. Barcelona, 2002), and moved to the “Calcium channels: Functions and Pathology” lab (CEA, France, 2002-2006), where he studied the crosstalk between the plasma membrane DHPR and the ER-spanning Ryanodine receptor (RyR). Afterwards, he joined Dr. Fillat lab (2006-2011, Center for Genomic Research, Barcelona) and developed gene therapy strategies for Down syndrome models, while starting to study ionotropic glutamate receptors (iGluRs) in neurological conditions. His laboratory is currently focused to study the physiology of NMDA-type iGluRs and to unveil the molecular and cellular mechanisms bridging the gap between glutamate receptor dysfunction and neurological diseases. In particular, his main research interest is the functional evaluation, stratification and development of precision therapies for pediatric encephalopathies resulting from de novo mutations affecting the NMDA receptor.

Selected Publications:

Monday 28th October 11:45
Keimpe Wierda, PhD (Leuven Center for Brain & Disease Research, Belgium)

Keimpe Wierda is currently head of the electrophysiology expertise unit at VIB, KU Leuven in Belgium. His interest in electrophysiology started during his master’s (medical biology) at the University of Utrecht and he continued exploring this field in a PhD project at the Vrije Universiteit (VU) in Amsterdam where he developed electrophysiology on single, cultured neurons to study the role of Munc18 in presynaptic function. Together with his family, he moved to Germany for a postdoc at the Max Planck Institute for Biophysical Chemistry in the lab of Prof. Dr. Erwin Neher. Here he studied the role of neuronal interactions on synaptic function in minimal networks. After two years, Keimpe accompanied his direct supervisor (Prof. Dr. Jakob Sørensen) to start up his lab in Copenhagen, Denmark. In Copenhagen Keimpe was responsible for neuronal electrophysiology and was involved and/or supervised several projects in the lab. After five years, he was looking for another challenge and found this within VIB, KU Leuven where they were looking for an expert to establish an electrophysiology expertise unit. For the next four years, he has been building up this unit, presently including six setups (acute slice, primary cell culture, multi electrode array and combined two-photon/electrophysiology). Keimpe now collaborates with VIB research groups in projects that require electrophysiology or supervises and/or supports researchers to conduct experiments within the electrophysiology expertise unit.

Selected publications:
Matthijs Verhage obtained his PhD at the University of Amsterdam in 1990 (cum laude). He received post-doctoral training at the labs of prof. David G. Nicholls (Dundee, UK) and the recent Nobel laureate prof. Thomas C. Südhof (HHMI, Dallas, USA). Since 2001 he is full professor and head of the Department of Functional Genomics at the VUmc and at the Faculty of Life Sciences, Vrije Universiteit, Amsterdam, The Netherlands. In 2003 he became the first chairman of the Center for Neurogenomics and Cognitive Research (CNCR). He was co-founder and vice chair of the Dutch NeuroBSik Mouse Phenomics consortium. Since 2014, he is also affiliated with the Karolinska Institutet in Stockholm, Sweden (0.1fte) and since 2015 also with the Broad Institute at the Massachusetts Institute of Technology (MIT) in Boston, USA (0.1fte). Matthijs Verhage was partner of the EU consortium EU-Synapse, vice chair of EuroSpin and SynSys, co-founder and vice chair of H2020 consortium COSYN and founder and coordinator of SynGO.

In 2013 he received the ERC Advanced Grant of the European Research Council. Matthijs Verhage has studied the presynaptic nerve terminal in health and disease for several decades. His lab contributed to the elucidation of secretory pathways in mammalian CNS neurons and synaptic plasticity mechanisms. His team is also involved in studying the role of synaptic dysfunction in encephalopathies, intellectual disability, autism and schizophrenia.

Selected Publications:

Pierre Trifilieff was a postdoc in Eric Kandel’s lab at Columbia University (New York), where he studied the implication of local protein synthesis in long-term plasticity and memory consolidation. In 2010 he became a Research scientist at the New York State Psychiatric Institute and focused on the implication of dopamine D2 receptor-dependent signalling in reward processing and motivation. His work unravelled a central role of the striatal dopamine D2 receptor in the pathophysiology of motivation. In 2013 he obtained a faculty position in Bordeaux where he works on the implication of membrane lipid composition on the modulation of dopaminergic signalling and associated behaviors. Pierre Trifilieff will instruct on the Impact of membrane lipid composition on D2-dependent recruitment of arrestin signalling.
Selected Publications:


Monday 29th October 11:45
Emilie Pacary, PhD (Neurocentre Magendie, France)

Emilie Pacary is researcher in the group of Dr DN Abrous "Neurogenesis and Physiopathology" in the Neurocentre Magendie (Bordeaux) since 2012. Since her PhD, she has focused her studies on the cellular and molecular mechanisms regulating neurogenesis with a particular interest in actin cytoskeleton regulators. During her postdoc in the lab of Dr François Guillemot, she provided mechanistic insights into the regulation of neuronal migration during the development of the cerebral cortex. Her research aims now at further understanding the regulation of neuronal development by cytoskeleton regulators not only during embryonic and early postnatal periods but also during adulthood. She is also particularly interested in the development of the different population of granular neurons in the dentate gyrus. To study neuronal development, she has extensively used the technique of in utero electroporation (cerebral cortex, hippocampus, ganglionic eminences).

Selected publications:

Stéphane Oliet is a neurophysiologist with a strong interest in synaptic transmission and neuron-glia interactions. He has made some breakthrough discoveries in the field of synaptic plasticity and did some pioneering work on the contribution of astrocytes to synaptic functions. He was among the first to identify distinct forms of long-term depression in the hippocampus while in the laboratory of Roger Nicoll at UCSF. He also participated to the demonstration that NMDA-receptor dependent synaptic plasticity was expressed postsynaptically at CA3-CA1 synapses. He then described the importance of the astrogial environment for glutamatergic transmission through glutamate transport and gliotransmission. His group in Bordeaux has contributed significantly to the emerging concept of of the tripartite synapse that considers astrocytes as active partners of chemical synapses. In particular, they showed that astroglial glutamate transporters were key regulators of synaptic efficacy through the control of presynaptic metabotropic receptors activity. He also demonstrated that membrane trafficking of these receptors at the surface of astrocytes was essential for ensuring an efficient glutamate uptake. His group also focused on the ability of astrocytes to supply synaptic NMDA receptors with an endogenous co-agonist, D-serine. Through this process, astrocytes gate hippocampal NMDAR-dependent plasticity and thus play a role in learning and memory. His interest in glia cells now extended to pathological situation including cognitive deficit associated with Alzheimer disease and more generally neuroinflammation.

Stephane Oliet is the acting director of the Neurocentre Magendie, an Inserm Research Institute which is part of Bordeaux Neurocampus. This Institute is composed of about 200 persons, 11 research teams, and 6 technical platforms.

Selected publications:

Tuesday 30th October, 11:00
Sabine Levi, PhD (Fer à Moulin Institute, France)

Sabine Lévi co-heads a laboratory at the Fer à Moulin Institute (Inserm UMR839, Paris) - Team "Plasticity in cortical networks and epilepsy". She has an expertise in synaptic inhibition focusing on molecular aspects of the regulation of synaptic transmission by studying KCC2 and GABAAR using state-of-the-art imaging techniques such as quantum-dot based single particle tracking approaches, a technique she developed in A. Triller’s lab. She received the Integrative Physiology price of the French Academy of Science in 2009.

Selected Publications:


Tuesday 30th October, 11:45
Natalia Kononenko, PhD (University of Cologne, Germany)

Natalia Kononenko is a cellular neuroscientist with expertise in analysis of membrane trafficking in neurons. Originally trained in physiology in Russia and in neuroanatomy in Norway, she received an extensive postdoctoral training in the lab of Volker Haucke in Berlin, Germany, where she used a combination of state-of-the-art imaging and genetic approaches to understand the function of endocytic adaptors in the brain. Her work established a novel non-canonical function of endocytic proteins in neurons, where they mediate the survival by regulating the neurotrophin signaling. Since 2016 she is a Research Group Leader in CECAD at the University of Cologne, where she leads a team of 5 researchers. Her lab uses a unique multidisciplinary approach to study the selective vulnerability of neurons to degeneration at the intersection of neuroscience and cell biology. Natalia Kononenko’s lab integrates the state-of-the-art genetic and cell biology approaches with live cell imaging, superresolution microscopy and in-vivo neuroanatomy to understand the role of membrane trafficking in the pathogenesis of neurodegeneration. Currently the group has two focuses, the role of endocytic adaptor AP-2 in regulation of amyloidogenesis in neurons and the autophagy-dependent control of axonal microtubule dynamics.
Selected Publications: