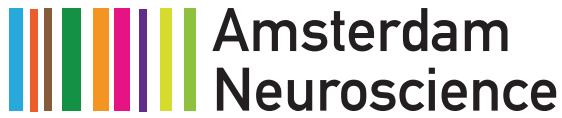




Amsterdam Neuroscience
Annual Meeting
Friday, 4 October 2019



Amsterdam Neuroscience is an alliance research institute of Amsterdam UMC, location VUmc and AMC, Vrije Universiteit Amsterdam and University of Amsterdam.

Amsterdam Neuroscience office team:
Thea Laan, Policy officer (VUmc, VU)
Sabira Noerkhan, Office manager (AMC)
Anita Osinga, Office manager (VUmc, VU)

Word from the directors

The mission of Amsterdam Neuroscience is to generate understanding of the human brain and nervous system in health and disease by integrating basic, translational and clinical research and to provide common ground for clinicians and basic scientists in the Neuroscience field in the Amsterdam area.

Together we try to bridge the gap between basic research and translational medicine by gaining deep understanding of the many brain disease mechanisms, techniques and various disciplines and research methods used nowadays in Neuroscience, and by taking advantage of our proven affinity for brain disease and clinical innovation in the field of Neurology and Psychiatry. We do this by initiating new research strategies and proof-of-concept studies for radically new approaches in the early diagnosis of brain diseases, the elucidation of the underlying mechanisms, and thus providing new routes towards therapy. We believe that this strategy is meaningful and effective, and indeed the facts and figures of our institute are a great benchmark for the coming years.

The Annual Meeting of 2019 has many elements that you may recognize from previous years. Highlights include the research reports and the pecha kucha talks during the morning session and the poster market during the lunch break. In the afternoon we will present a line-up of excellent speakers all around the same topic, i.e. on the genetics of brain disease.

Hence, we want to celebrate our achievements and cordially invite you to join during our fourth Annual Meeting that is open to all generations, MSc and PhD students, postdocs, residents, principal investigators, educators and support staff.

Arjen Brussaard – director

Diederik van de Beek - co-director



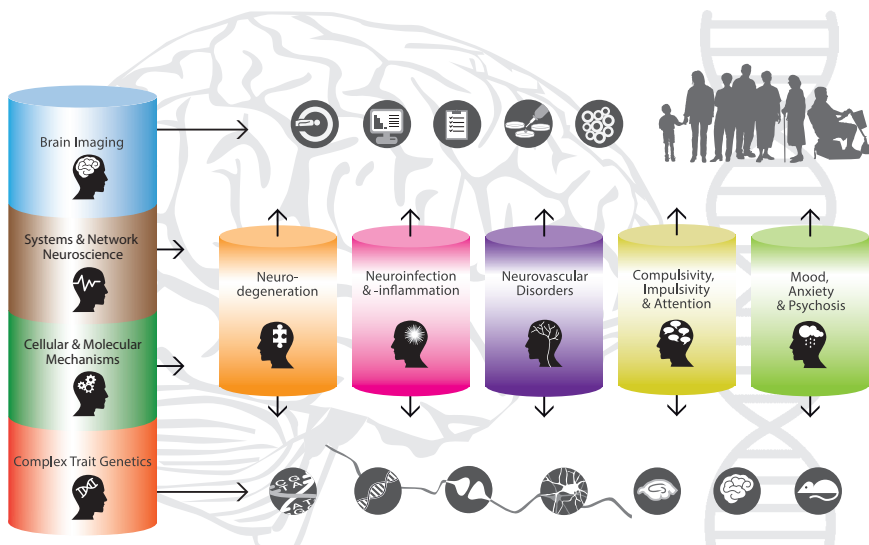
Facts & Figures

With 153 principal investigators and 78 faculty & residents, 217 postdocs & research associates and > 450 PhD students the 'community' of the alliance institute Amsterdam Neuroscience presently represents > 900 investigators.

In the period 2016-2018, conditional funding for the Amsterdam Neuroscience affiliated investigators in total amounted to about > 45 M€ per year. This included prestigious personal grants that were awarded to researchers in the institute (8 Veni grants, 5 Vidi grants and 2 ERC grants), funding from several other major grants from Dutch agencies, from European Research Council, and from non-profit (patient-oriented) organizations, and up to 10 M€ per year funding in contract research sponsored by the biotech and pharma industry. During this period there was an additional 6.5 M€ of internal funding invested in proof of concept (PoC) projects, alliance- and innovation- projects for Amsterdam Neuroscience researchers.

About > 1200 peer-reviewed scientific papers are published each year, with > 10% published in journals with an impact factor > 10. Co-authorships within the institute (i.e. bi-location affiliations) rose to > 10% of the total scientific output indicating an increase in collaboration of research groups within the institute.

Highlights over the period 2016-2018 included six appointments to full professorship, three Annual Meetings of Amsterdam Neuroscience, the 3rd and 4th Translational Neuroscience Network (TN2, www.tn2.eu) meeting and the 2nd CSF Society meeting.



Program of the Annual Meeting

- 08:30 Registration
- 09:30 Word of the directors
Arjen Brussaard
Diederik van de Beek
- 09:45 Research Reports
Hanneke Hulst *Cognitive rehabilitation in multiple sclerosis: is there a window of opportunity?*
Judy Luigjes *Confidence estimation in compulsive disorders*
Aniko Korosi *Early-life stress increases vulnerability to develop cognitive dysfunction: a focus on inflammation and nutrition*
Henne Holstege *Cognitively healthy centenarians are genetically protected against aging associated diseases*
- 10:45 Coffee break
- 11:15 Pecha Kucha
by selected speakers from the nine research programs of Amsterdam Neuroscience
- 12:30 Poster market and lunch
- 14:00 Swammerdam lecture
by Steven Hyman (Harvard University, director of the Stanley Center for Psychiatric Research at the Broad Institute of MIT and Harvard)
- 14:45 Interview with Steven Hyman
by Matthijs Verhage (Amsterdam UMC, Location VUmc; CNCR department, Vrije Universiteit Amsterdam)
- 15:15 Research perspectives
by Guus Smit, Danielle Posthuma & Ronald van Kesteren (CNCR department, Vrije Universiteit Amsterdam & Amsterdam UMC)
- 15:45 Interview with Jetske van der Schaar
by Philip Scheltens (Amsterdam UMC, Location VUmc; Alzheimer Center Amsterdam)
- 16:15 Awards ceremony
Awards for nine best posters and best Pecha Kucha presentation
- 16:30 Sponsored reception: Drinks and Touch the grass

Research Report

Cognitive rehabilitation in multiple sclerosis: is there a window of opportunity?

Dr. Hanneke Hulst
Departments of Anatomy and Neurosciences,
Amsterdam UMC & MS Center Amsterdam



Cognitive problems occur in up to 70% of the patients with multiple sclerosis (MS) which are highly debilitating and an important cause of unemployment and disconnection from society. The first results of studies using non-pharmacological interventions to improve cognitive functioning in MS patients report mild to moderate effects. However, these effects might be confounded by the large heterogeneity of the patient population in terms of brain characteristics (lesion load, atrophy, brain network characteristics/disturbances; i.e. not all patients might be able to benefit equally from such interventions and there may even be a limited window of opportunity). An essential step in the field of cognitive rehabilitation in MS is therefore the search for (neurobiological) markers that allow us to identify patients that will be responsive to cognitive rehabilitation. Ultimately, this will pave the way for personalized (cognitive) medicine in MS and perhaps even a shift from treatment towards secondary prevention.

Research Report

Confidence estimation in compulsive disorders

Dr. Judy Luigjes

Department of Psychiatry, Amsterdam UMC & University of Amsterdam



Compulsive behavior consists of repetitive self-defeating acts with devastating consequences. Obsessive-compulsive disorder (OCD) and gambling disorder (GD) are characterized by compulsive behaviour with both opposing (taking risk in GD; avoiding risk in OCD) and overlapping aspects (persistence despite devastating consequences). Interestingly, both disorders have been associated with an aberrant sense confidence albeit in an opposite direction: under-confidence in OCD and over-confidence in GD, which may explain both the shared and opposing characteristics of the behaviors. Recent studies suggest that confidence—an intuitive feeling about the probability of being correct—could be key in optimally adapting one's behaviour.

Using a decision making task where participants rate their decision confidence we investigated whether and how confidence of OCD and GD patients deviates from each other and healthy controls. Characterizing the mechanisms of confidence in OCD and GD will elucidate mechanisms related to compulsivity and may lead to new avenues for treatment.

Research Report

Early-life stress increases vulnerability to develop cognitive dysfunction: a focus on inflammation and nutrition

Dr. Aniko Korosi

University of Amsterdam, Swammerdam Institute for Life Sciences | CNS division



Early-life stress (ES) is associated with increased vulnerability to cognitive impairments later in life. We investigate the role of a synergistic effect of stress, nutrition and the neuroimmune system in this early-life induced programming. We use a mouse model of chronic ES of limited nesting and bedding material during first postnatal week and study the brain structure and function under basal and challenged conditions (i.e. LPS, amyloid accumulation). Because of the key role of early nutrition during brain development we propose that an early dietary enriched with essential fatty acids might protect against ES-induced functional deficits. We show that ES leads to cognitive impairments associated with primed microglia with exaggerated response to LPS or amyloid accumulation. With an early dietary intervention with fatty acid we were able to prevent ES-induced cognitive decline mediated by modulation of microglia. These studies give new insights for the development of dietary interventions for vulnerable populations.

Research Report

Cognitively healthy centenarians are genetically protected against aging associated diseases

Dr. Henne Holstege

Amsterdam UMC: Alzheimer Center and Department of Clinical Genetics

Delft University of Technology: Department of Intelligent Systems,

Bioinformatics Lab



Preliminary findings indicated that siblings from the centenarians live on average 5-10 years longer compared to their birth cohort-peers. Also, the incidence of cognitive decline in siblings is negligible, indicating a strongly heritable, overlapping etiology of retained cognitive health and longevity. Indeed, the genomes of centenarians are depleted with risk alleles associated with age related diseases such as dementia, cardiovascular diseases and diabetes. Moreover, the genomes of the centenarians are enriched with genetic variants that are protective against disease.

Although the prevalence of dementia increases exponentially with age, some people reach ages well over 100 years enjoying great mental health. This indicates that cognitive decline is not inevitable.

To identify the molecular characteristics associated with resilience to cognitive decline we designed the 100-plus Study, an on-going prospective cohort study comprising cognitively healthy centenarians from a homogeneous Dutch population. Currently the cohort includes almost 370 cognitively healthy centenarians.

Specifically, exploring the effect of the protective heritable component is of value, as this discloses the molecular etiology underlying the delay or escape from age-associated cognitive decline. This may ultimately reveal an entry point for novel therapeutic targets that offer resilience to cognitive decline.

Swammerdam Lecture

Mental and neurological diseases: success in the genetics reveals great challenges for translational neurobiology and therapeutics

Prof. Dr. Steven E. Hyman

Director of the Stanley Center for Psychiatric Research at Broad Institute of MIT and Harvard, a core member of the Broad, and Harvard University Distinguished Service Professor of Stem Cell and Regenerative Biology.



Mental disorders represent a significant and growing public health problem worldwide, yet new treatment discovery has lagged other fields of medicine based on lack of insight into disease mechanisms. This lack reflects the complexity of the human brain and its inaccessibility for direct study in life. Further, animal models have limited translational utility for mental disorders because of significant evolutionary divergence from humans in brain structure and function, especially in the cerebral cortex, and in such other features as regulatory genomic regions that play critical roles in brain development and risk of mental illness. This bleak picture is now changing as a result of rapid advances in computing,

computational methods, and multiple relevant areas of technology. Since the beginning of this century we have gained powerful tools for genomics, cellular reprogramming, genome engineering, and investigation of neural circuit function and behavior. Large collaborative, unbiased genetic studies of mental disorders have yielded clues to pathogenesis that are being studied biologically in both human cellular models and animals.

Despite this progress, very significant challenges remain. Mental disorders are highly polygenic with overlapping patterns of genetic risk across multiple disorders and healthy cognitive and behavioral phenotypes. In addition, no current experimental model systems, whether cellular or using living animals, fully serve the purpose of translation. Nonetheless, promising new approaches are coalescing in which human genetics poses disease relevant questions for basic neuroscience.

Translational hypotheses that emerge should, when possible, be tested in humans, human cellular models, or human samples. To illustrate, results from schizophrenia genetics implicate Complement Factor 4A (C4A) and many synaptic proteins in disease risk, suggesting the hypothesis that excessive synaptic pruning

mediated by microglia during the typical adolescent period of onset represents a pathogenic mechanism. GWAS results for late onset Alzheimer's disease (AD) indicates that more than half of common risk variants implicate microglia directly. As a result of these genetic findings in schizophrenia and late onset AD, new basic science efforts to characterize microglia are under way in animals, human postmortem tissue, and microglia derived from human induced pluripotent cells.

In both diseases (AD research is more advanced) fluid biomarker studies are investigating complement proteins,

microglial proteins and synaptic proteins. In parallel discoveries of common and rare DNA variants associated with schizophrenia have implicated many synaptic proteins, thus motivating new efforts to localize and characterize the functions of their proteins in both animals and human cellular models, as illustrated by the synaptic gene ontology project, SynGo. There is a long way to go before such discoveries lead to new effective therapies, but the last decade has seen real and durable progress in the neurobiology of once mysterious psychiatric disorders.

Interview with Steven Hyman

by Prof. dr. Matthijs Verhage, prof of Functional Neurogenomics, Center for Neurogenomics and Cognitive Research, Vrije Universiteit Amsterdam & Amsterdam UMC - location VUmc



Research perspectives

New directions for science-based intervention in brain disorders

by Prof. Dr. August Smit, professor of Molecular & Cellular Neurobiology, head of department, CNCR, Vrije Universiteit Amsterdam

by Prof. Dr. Danielle Posthuma, professor of Complex Trait Genetics, CNCR, Vrije Universiteit Amsterdam & Amsterdam UMC

by Dr. Ronald van Kesteren, associate professor of Molecular & Cellular Neurobiology, CNCR, Vrije Universiteit Amsterdam & Amsterdam UMC



Neuroscience develops rapidly in various areas. Today's perspective will cover two, Genetics and Alzheimer's disease, where conceptual breakthroughs are made at rapid pace. Guus Smit will be discussing new developments in Genetics with Danielle Posthuma and novel views in Alzheimer's disease research with Ronald van Kesteren.



Genetics: This exciting, booming field is providing extensive datasets frequently implicating hundreds of genes at the basis of a complex disorder. Neuroscience has a hard time to use this treasure trove, thereby limiting the success in Genetics. A 'Gravitation project' awarded by NWO is now aimed at radically changing the way we analyze complex traits. Danielle Posthuma, who coordinates this project, will explain this huge challenge and the potential it has.



Alzheimer's disease: This active research field seems to renew itself over and over and new developments in understanding Alzheimer's disease are at the horizon. Ronald van Kesteren will discuss the 'new kid on the block', by taking a new angle on the disease-affected neuronal circuitry. He will discuss how specific interventions were used to treat memory impairments in mice and how these might be translated to humans.

Interview with Jetske van der Schaar

by Prof. Dr. Philip Scheltens, prof of Neurology and director of the Alzheimer Center Amsterdam, Amsterdam UMC

Jetske van der Schaar is a writer, entrepreneur, publicist and corporate speaker. She writes columns, articles and reviews and currently is working on her second novel. She also carries a rare gene variant of PSEN1, which is a cause of familial (dominantly inherited) Alzheimer's disease (AD). This will inevitably lead to symptoms when she will be in her early fifties.

Van der Schaar's grandfather, uncle and mother all died with early onset AD. In 2014 she consulted a clinical geneticist to get screened herself and got confirmation on her genetic status. In 2016 she came to the Alzheimer Center Amsterdam to know more about the disease and the possibilities to join research. One year later, on October 12, 2017, she was invited by Philip Scheltens to appear on national television (PAUW) and share her story. During the interview, she spoke for the first time about the disease and how it had affected her family and her own life. Since then she has become an ambassador for families with members suffering from dominantly inherited AD and a public figure both in the Netherlands and beyond.

In 2018 she featured as a major speaker during the international Dominant Inherited Alzheimer Network (DIAN) conference in Chicago, where scientists and DIAN family partners meet up at the DIAN-satellite meeting of the Alzheimer Association International Conference (AAIC). Jetske van der Schaar agreed to be



interviewed by Philip Scheltens on stage during our Annual Meeting because she is passionate about the public debate on the disease and wants to be an active stakeholder in research as well. During the interview she will share her thoughts and insights on the taboo and stigma that surrounds this disease and how she thinks active participation of 'patients' will benefit research.

Poster market



Brain Imaging

- 1 Admiraal, Marjolein Quantitative EEG for prognostication after cardiac arrest
- 2 Afzali-Hashemi, Liza Can ASL detect white matter perfusion signal in patients with sickle cell disease?
- 3 Baas, Koen Evaluating oxygen extraction in the brain using T2 prepared tissue relaxation inversion recovery (T2 TRIR)
- 4 Bouman, Piet DIR and PSIR detect an equal number of cortical lesions in multiple sclerosis
- 5 Coomans, Emma A study to evaluate the kinetics and 28 day test-retest repeatability and reproducibility of the radioligand [11C]UCB-J for brain PET imaging in healthy subjects and mild-moderate Alzheimer's disease subjects
- 6 El-Gazzar, Ahmed Deep Learning methods in neuroimaging; A classification study on Autism spectrum disorder
- 7 Hof, Sophie van het Intersubject Correlations during Sexual and Nonsexual Affective Film Clips in Couples: A Proof of Concept
- 8 Houtman, Simon Functional brain networks of source-modeled EEG for enhanced stratification of brain disorders
- 9 Karkalousos, Dimitrios Efficient and Robust accelerated MRI Reconstruction using the Recurrent Inference Machine
- 10 Koster, Laura White matter microlesion volume in relation to verbal fluency decline following electrode implantation in Parkinson's disease patients
- 11 Matej, Tiffany Neural mechanisms of confidence and prediction error under gain and loss contexts
- 12 Pluijm, Marieke van der Reproducibility of neuromelanin sensitive imaging of the substantia nigra: a comparison of three different sequences
- 13 Slomp, Margo Altered functional connectivity of the habenula in human obesity
- 14 Verfaillie, Sander & Wolters, Emma Early tau PET pathology is associated with memory performance in cognitively unimpaired individuals with SCD: the SCIENCE project

- 15 Visser, Denise Longitudinal dynamic [18F]Flortaucipir PET reveals increased early stage tau pathology in individuals with subjective cognitive decline
- 16 Vriend, Chris Amsterdam UMC - Imaging and deep learning community; A platform to bring Amsterdam UMC researchers together
- 17 Wolters, Emma [18F]flortaucipir PET strongly correlates to cognition across the clinical Alzheimer's disease continuum, independently of CSF tau



Systems & Network Neuroscience

- 18 Avramiea, Arthur-Ervin Excitation/inhibition balance optimizes long-range synchrony of coupled neuronal networks
- 19 Bongaarts, Anika The coding and non-coding transcriptional landscape of subependymal giant cell astrocytomas in patients with tuberous sclerosis complex
- 20 Huijstee, Aile van Variance analysis on synaptic currents predicts a differential subunit-specific distribution of AMPA-receptors and NMDA-receptors
- 21 Huiskamp, Marijn Default-mode network dysfunction can predict cognitive decline in multiple sclerosis
- 22 Hunt, Sarah Stronger and more reliable synaptic transmission between identified pyramidal neurons in human temporal association cortex relative to mouse
- 23 Maldonado, Paloma Oxytocin modulates spontaneous activity patterns in the developing sensory cortex
- 24 Mills, James Transcriptional changes in Parkinson's disease white matter: an under-appreciated player in disease progression
- 25 Pie, Jean Processing multisensory evidence for decision-making
- 26 Robke, Rhiannon Validation and characterization of a novel TPH2-iCre transgenic rat line for selective manipulation of the serotonin system
- 27 Ruffolo, Gabriele A novel GABAergic dysfunction in human Dravet syndrome
- 28 Vissers, Nicole The role of the GluA1 and GluA3 AMPAR subunits in β -adrenergic activation-induced plasticity in the visual cortex
- 29 Voges, Steven Imaging Empathy: Calcium responses in the anterior cingulate cortex during observation of pain



Cellular & Molecular Mechanisms

- 30 Boven, Maaïke van Measuring E/I balance in autism: from behaviour to networks and human neurons
- 31 Broekaart, Diede The novel matrix metalloproteinase inhibitor IPR-179 reduces seizures in rodent models of epilepsy
- 32 Driel, Saskia van Protein expression of Von Economo neurons
- 33 Harten, Alexandra van P180 regulates anterograde axonal transport of lysosomes in rat primary hippocampal neurons
- 34 Kater, Mandy The contribution of glia to synaptic dysfunction at the onset of Alzheimer's Disease
- 35 Koopmans, Frank SynGO: An Evidence-Based, Expert-Curated Knowledge Base for the Synapse
- 36 Korotkov, Anatoly Increased miR-34 expression in tuberous sclerosis complex during early development impairs neuronal migration and cell adhesion molecule Contactin-3
- 37 Lammertse, Hanna An integrative approach to STXBP1-Encephalopathy: in vitro, in vivo and patient clinics
- 38 McDaniel, Kate The Role of Rabphilin3A in Neuropeptide Secretion
- 39 Milanova, Irina Microglial immunometabolism in obesity and type 2 diabetes
- 40 Mills, James Transcriptome analysis of tuberous sclerosis complex and vanishing white matter astrocytes upon inflammatory or oxidative stress challenge
- 41 Mühlebner, Angelika Myelin pathology beyond white matter in tuberous sclerosis complex cortical tubers
- 42 Persoon, Claudia The Rab3/RIM pathway is essential for neuropeptide secretion
- 43 Wiersma, Vera Granulovacuolar degeneration bodies: neuron-selective lysosomal structures induced by intracellular tau pathology



Complex Trait Genetics

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|----|--------------------------|--|
| 44 | Ardesch, Dirk Jan | A comparative connectome study of the human and chimpanzee brain |
| 45 | Brandorff, Elias | The functional implication of complex DNA structures in repetitive DNA sequences |
| 46 | Bree, Elise van | Hidden genetic variety in transposable elements |
| 47 | Castillo, Inés López del | The role of a retrotransposon-derived natural antisense transcript in regulating SNCA expression |
| 48 | Farmiloe, Grace | Uncovering multiple layers of species-specific gene control |
| 49 | Geus, Matthijs de | Investigating the role of KRAB Zinc Finger proteins in gene regulatory networks |
| 50 | Guimaraes, Rita | Structural variations in VNTRs associated with Alzheimer's disease |
| 51 | Lange, Siemon de | GAMBA: an integrative platform for exploring transcription-neuroimaging association |
| 52 | Lee, Sven van der | Common variant on C9ORF72 associates with frontotemporal dementia and potentially predisposes to an increased C9ORF72 hexanucleotide repeat expansion length |
| 53 | Nagel, Mats | Cross-trait analysis of brain volume and intelligence identifies shared genomic loci and genes |
| 54 | Savage, Jeanne | Are internalizing disorders genetically distinct? Lessons learned from item-level analyses |
| 55 | Tesi, Niccoló | Cognitively healthy centenarians are genetically protected against Alzheimer's disease, with a focus on the immune and lysosomal systems |
| 56 | Tissink, Elleke | Genetic control over connectivity within resting-state networks; GWAS on white matter integrity and functional connectivity |
| 57 | Waal, Matthijs de | Exploring genome-wide influences on neurodegenerative diseases |
| 58 | Walree, Eva van | HEY2 variants predispose to a broad spectrum of cardiac defects in humans |

- 59 Wei, Yongbin Genetic correlates of evolutionary adaptations in cognitive functional brain networks and their relationship to human cognitive functioning and disease
- 60 Werme, Josefine Genome-Wide Gene-Environment Interaction in Neuroticism: An Exploratory Study of 25 Environmental Variables
- 61 Winkelman, Levi Novel overlap in tissue specific gene expression between Alzheimer's disease and Parkinson's disease



Neurodegeneration

- 62 Balkom, Tim van The 'Cognitive Training In Parkinson' Study; Results from the COGTIPS clinical trial
- 63 Batenburg, Kevin A 3D human co-culture model of tau aggregation
- 64 Blujdea, Elena Raluca Understanding the pathological and anatomical differences between behavioural and typical Alzheimer's disease
- 65 Ebenau, Jarith ATN-classification and clinical progression in subjective cognitive decline: the SCIENCEc project
- 66 Fathy, Yasmine Axonal loss in the anterior insular cortex in Parkinson's disease and dementia with Lewy bodies: disentangling degeneration
- 67 Geut, Hanneke Dysregulation of mitochondrial and retromer pathways in GBA-related Parkinson's disease and dementia with Lewy bodies
- 68 Holter, Susanne ten Case series of tremor in Guillain Barre syndrome
- 69 Kurpershoek, Liesbeth Advanced care planning for Parkinson's disease
- 70 Laansma, Max ENIGMA-Parkinson's Disease: an international mega-analysis of cortical and subcortical morphometry in Parkinson's patients versus healthy controls
- 71 Miedema, Suzanne Risk and Modifying factors in Frontotemporal Dementia: a human proteomics exploration
- 72 Poppelen, Daan van Deep brain stimulation and continuous intrajejunal levodopa infusion for Parkinson's disease: dual therapy and cross-over
- 73 Prent, Naomi Distance to white matter tracts is associated with deep brain stimulation motor outcome in Parkinson's disease
- 74 Robinson, Eddy Survival of midbrain dopamine neurons depends on the Bcl2 factor Mcl1
- 75 Roos, Dareia Hyposmia as a marker of (non-)motor disease progression in Parkinson's disease
- 76 Roy, Indra Characterizing novel biomarkers of Alzheimer's Disease in cerebrospinal fluid and pathological human brain tissue: ABL1 and THOP1
- 77 Scheijbeler, Eliz Functional connectivity within the cerebellum and brainstem in essential tremor patients- a tailored resting state fMRI approach

- 78 Sisodia, Vibuthi & Dubbeld, Lars Efficacy and safety of adjunctive therapy to levodopa in advanced Parkinson's disease; a systematic review and meta-analysis
- 79 Spierenburg, Rick Identification of Mcl1 interactors in control of Dopamine neuron survival
- 80 Thijssen, Lies Diagnostic value of plasma phosphorylated tau181 in Alzheimer's disease and frontotemporal lobar degeneration
- 81 Verberk, Inge Plasma amyloid beta(1-42/1-40) measured by novel Simoa Amyblood assays and glial fibrillary acidic protein predict Alzheimer's pathology
- 82 Wesenhagen, Kirsten The association of aging and concentrations of the cerebrospinal fluid proteome in cognitively normal subjects



Neuroinfection and -inflammation

- 83 Beckerman, Heleen Severity and progression of cognitive deficits in newly diagnosed patients with Multiple Sclerosis; a 10-year follow-up
- 84 Bosch, Iris Analysis of complement components C1q and C3 in early stage Alzheimer's Disease in APP/PS1 mice
- 85 Broeders, Tommy Static and Dynamic Functional Network Changes related to Acute Stress; Investigating Functional Network Recovery
- 86 Bus, Sander Optimal treatment in CIDP, results of pilot study and design of randomised controlled trial
- 87 Chekrouni, Nora Community-acquired Haemophilus influenzae meningitis in adults Clinical characterization, serotype distribution and clinical outcome
- 88 Dam, Maureen van Changes in white matter integrity and fatigue levels after 6-months of fingolimod treatment in patients with multiple sclerosis
- 89 Dias, Sara Differences between sexes in the response to corticosteroids in adults with community-acquired bacterial meningitis
- 90 Horst, Liora ter Recurrent community-acquired bacterial meningitis in adults
- 91 Huiskamp, Marijn Thalamic volume as a measure to discriminate between subjective and objective cognitive complaints in MS: towards clinical application?
- 92 Koelman, Diederik Pneumococcal meningitis in adults in the Netherlands; Effect of pneumococcal conjugate vaccination on incidence, serotype distribution, and clinical outcome
- 93 Lam, Ka Hoo Quantifying fatigue using keystroke dynamics in multiple sclerosis
- 94 Lam, Ka Hoo Smartphone-based assessment of fatigue and fatigability in multiple sclerosis
- 95 Loonstra, Floor Infusion-related events during natalizumab: No need for post-infusion monitoring
- 96 Loonstra, Floor Serum neurofilaments as candidate biomarkers of natalizumab associated progressive multifocal leukoencephalopathy.

- 97 Nauta, Ilse Functional brain network organization predicts cognitive decline in multiple sclerosis: a longitudinal magnetoencephalography study
- 98 Prouskas, Stefanos Different network functional connectivity characteristics of responders and non-responders to attention training in MS
- 99 Prouskas, Stefanos Cognitive rehabilitation in patients with advanced progressive multiple sclerosis: possible within limits?
- 100 Rodriguez Lorenzo, Sabela The choroid plexus in progressive multiple sclerosis; A transcriptomic and immunohistochemical study
- 101 Rodriguez Mogeda, Carla Cortical microglia in progressive MS acquire a unique phenotype in response to chronic meningeal inflammation



Neurovascular Disorders

- 102 Andringa, Aukje Time course of wrist hyper-resistance in relation to upper limb motor recovery early post stroke
- 103 Denneman, Nadine Quality of Life after Subarachnoid Hemorrhage
- 104 Goedemans, Taco Decompressive craniectomy after middle cerebral artery infarction: should time elapsed since stroke onset act as a decisive criterion?
- 105 Groot, Adrien Endovascular treatment in older adults with acute ischemic stroke in the MR CLEAN Registry
- 106 Guglielmi, Valeria Mind the Heart: ECG-gated cardiac CT-angiography in the acute phase of ischemic stroke
- 107 Hafdi, Melanie Prevention of dementia using mobile phone applications (PRODEMOS) - A multinational randomized controlled trial in progress
- 108 Kappelhof, Manon Improved outcome and reduction of time to endovascular treatment for ischemic stroke in routine clinical practice: comparison of the MR CLEAN Registry first and second cohorts
- 109 LeCouffe, Natalie 2B vs 2C: what should be the target for endovascular treatment?
- 110 Lodewijkx, Roger The effect of steroids as an adjunct to surgical treatment in patients with chronic subdural hematoma
- 111 Meenen, Laura van EEG controlled triage in the ambulance for acute ischemic stroke trial (ELECTRA-STROKE)
- 112 Mulder, Inge Microvascular reperfusion in acute ischemic stroke using in vivo 2-photon microscopy in mice
- 113 Mulder, Marijn Caregiver-mediated exercises with e-health support after stroke: Results of the CARE4STROKE trial
- 114 Post, Rene Short-term tranexamic acid treatment reduces in-hospital mortality in aneurysmal subarachnoid hemorrhage: a multicenter comparison study

- 115 Postma, Eva Higher Leukocyte Count at Admission is Associated with Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage
- 116 Saes, Mique Is resting-state EEG longitudinally associated with spontaneous neurobiological recovery early post stroke?
A prospective cohort study
- 117 Sanchez-van Kammen, Mayte Late seizures in cerebral venous thrombosis
- 118 Velzen, Twan van Predicting stroke recurrence in patients with internal carotid artery stenosis with inflammatory biomarkers after ischemic stroke



Compulsivity, Impulsivity and Attention

- 119 Blankenstein, Neeltje Neurobiological correlates of antisocial behavior across adolescence: A multi-sample multi-method study?
- 120 Booij, Caroline de Exploring Ocular and Head Kinematics in an Immersive Virtual Environment for Post-Stroke Neurorehabilitation
- 121 Borges, Vinicius P. M. Learn to pay attention: distinct development of activity in dorsal and ventral medial prefrontal cortex
- 122 Dijkmans, Jeroen Multisensory integration in primary areas using a temporal coding scheme
- 123 Eijsker, Nadine Structural and functional brain abnormalities in misophonia
- 124 Groep, Ilse van der Neurobiological correlates of social evaluation and self-concept
- 125 Hoven, Monja Abnormalities of confidence in psychiatry: an overview and future perspectives
- 126 Joode, Niels de Longitudinal effects of concentrated exposure therapy on neurometabolite concentrations in the dorsal anterior cingulate cortex of patients with obsessive-compulsive disorder
- 127 Kaiser, Antonia Executive network functional connectivity and GLX levels in adult AD(H)D
- 128 Kroon, Emese 'Hot and Cold' Cognitive Control in Heavy Cannabis Users: Working Memory Network Activation and Connectivity During an Adapted N-back Task
- 129 Kuhns, Lauren Unraveling the neural mechanisms underlying cigarette and cannabis craving in comorbid users
- 130 Parthasarathy, Aishwarya Population activity in prelimbic cortex during go/no-go task
- 131 Schluter, Renee The effect of ten HF-rTMS add-on treatment sessions on impulsivity in alcohol dependent patients
- 132 Sikkens, Tim Cross-species analysis of mismatch negativity responses in primary visual cortex of mice and ferrets
- 133 Simpraga, Sonja Adults with autism spectrum disorder show atypical patterns of thoughts and feelings during rest

- 134 Timmeren, Tim van Does the use of implementation intentions lead to inflexible habits and increased automaticity? An experimental investigation
- 135 Visser, Esther Infralimbic to prelimbic cortex projections recruit feed-forward inhibition to extinguish cocaine-conditioned behavior
- 136 Weeland, Cees Subcortical and cortical brain morphology associated with obsessive-compulsive symptoms in 2551 children from the general population



Mood Anxiety and Psychosis

- 137 Aghajani, Moji & Adibi Rafsani, Bahar Proinflammatory Cytokines and The Depressed Brain
- 138 Axfjord Fridgeirsson, Egill Electric fields induced by Electroconvulsive Therapy are associated with clinical outcome
- 139 Beunders, Alexandra Severe cognitive impairment in bipolar disorder - Alzheimer or vascular pathology? Examining neurobiological underpinnings
- 140 Binnewies, Julia Longitudinal associations between depression, lifestyle and brain structure: a 9-year follow-up MRI study
- 141 Brosens, Niek Glucocorticoids promote fear generalization by increasing the size of memory-encoding neuronal ensembles
- 142 Han, Laura Brain aging in major depressive disorder: associations with clinical characteristics and other biological clocks
- 143 Hilberdink, Lotte Brain connectivity in response to social evaluative threat in adolescents with PTSD symptomatology
- 144 Kotah, Janssen Early-life stress exposure does not interact with aging-associated alterations to neurogenesis, neuroinflammation, and cognition in advanced age mice
- 145 Leerssen, Jeanne Brain structural correlates of insomnia severity in 1,053 individuals with Major Depressive Disorder: Results from the ENIGMA Major Depressive Disorder Working Group
- 146 Nawijn, Laura Hair cortisol associations with childhood maltreatment and recent life events
- 147 Oudijn, Marloes Deep Brain Stimulation in patients with chronic treatment refractory Anorexia Nervosa: A pilot study
- 148 Spijker, Sabine Incubation of depression
- 149 Tillema, Nina Resting-State Functional Connectivity in Atypical Depression

Industry Alliance Office

Translational Neuroscience is at the core of Amsterdam Neuroscience; building links between university labs and clinical practice. This is further supported by our Industry Alliance Office (IAO) to bridge the gap between academia and clinics on the one hand and biotech and pharma on the other hand.

The Industry Alliance Office was founded in 2012 with the goal to extend and intensify the collaboration between industry and academic research groups within Amsterdam Neuroscience. The aim is to speed up the development of new therapies and diagnostics for patients suffering from a neurological disorder or mental illness, from bench to bedside. The IAO acts as system integrator, a one-stop-shop where custom research services and clinical trial guidance can be made available to industry. To this end, we seek enduring partnerships with external stakeholders, where the IAO aligns academic interests with research questions from industry.

A compact team of scientific business developers is present at our annual meeting to meet investigators from all generations.

The IAO team:

Pieter van Bokhoven, Director of Business Development

Sasja Heetveld, Business Development manager

Dilek Iusuf, Business Development manager

Prisca Leferink, Business Developer

Sanne Stembert, Senior Business Development manager

Barbara Goossens, Planning manager & Legal officer

Maike Leusden, Project manager

Janny Spaan-Könst, Management assistant

Margot Muller, *Managing Director*

Diederik van de Beek, Chief Medical Officer

Arjen Brussaard, Chief Scientific Officer & Chief Executive Officer

Posters of the Industry Alliance Office

1. The Industry Alliance Office: Enabling translational neuroscience with industry
2. Connecting industry to Amsterdam Neuroscience: Four case examples of drug development for brain diseases



