

Sunday, May 17

4:00pm – 5:00pm – Arrival & Registration

5:00pm – 6:15pm – Opening Plenary Lecture

Controlling the Controller: Dopaminergic influences over Pavlovian and instrumental interactions

Peter Dayan, MPI for Biological Cybernetics, Germany

6:15pm – 8:00pm – Welcome Reception

Monday, May 18

8:30am – 9:00am – Registration

9:00am – 10:00am – Plenary Lecture

Dopamine Dynamics

Ann Graybiel, MIT McGovern Institute

10:00am – 10:30am – Coffee Break

10:30am – 12:25pm – Parallel Sessions 1 – 5

Parallel Session 1, Basal Ganglia Integration of Motivation, Reward, and Drug-Seeking

1.1 - Endogenous dynorphin in the basal ganglia sculpts neural activity to promote goal-directed action

Raajaram Gowrishankar, University of Washington

1.2 - Neural representations of motivated behaviors by nucleus accumbens neurons

Carina Soares-Cunha, University of Minho

1.3 - A ventral pallidal glutamatergic aversive network encodes abstinence from and re-exposure to cocaine

Yonatan Kupchik, The Hebrew University of Jerusalem

1.4 - The role of inhibitory control on cocaine conditioned reward

Rami Yaka, The Hebrew University of Jerusalem

Parallel Session 2, How Addictive Substances Skew Dopamine–Acetylcholine Dynamics in the Striatum to Drive Compulsive Consumption

2.1 - Orbitofrontal inputs that boost D2-neuron plasticity to rescue alcohol disruption of cognitive flexibility

Tengfei Ma, Nanjing Medical University

2.3 - Striatal Dopamine and dMSN-Driven Acetylcholine Dip-Rebound Support Action-Outcome Contingency

Jun Wang, Texas A&M University Health Science Center

2.4 - The highs and lows of dopamine in compulsive alcohol use

Sebastien Carnicella, Institut des Neurosciences de Grenoble

Parallel Session 3, Dopamine-glia interactions contribute to normal and pathological behaviors

3.1 - Dopaminergic activation of microglia through D1 and D2 receptors controls inflammatory state and behavior

Bruno Giros, McGill University

3.2 - Glial cell milieu confers vulnerability to dopamine neurodegeneration

Natalina Salmaso, Carleton University

3.3 - Astrocytic dopamine dysregulation in the prefrontal cortex drives compulsive behavior and cognitive dysfunction

Paola Bezzi, Sapienza University of Rome and University of Lausanne

3.4 - Development of astroglial dopaminergic functions is essential in the critical period of prefrontal cognition

Glenn Dallérac, Paris-Saclay Institute of Neuroscience

Parallel Session 4, Sensitivity of the corticolimbic dopamine (DA) system during development and maturation of neural circuits

4.1 - Adolescent Plasticity of Frontal Cortical Dopaminergic Circuits: From Cellular Mechanisms to Therapeutic Potential

Kuan Hong Wang, University of Rochester Medical Center

4.2 - Decoding how social stress in adolescence impacts dopamine development

Cecilia Flores, McGill University

4.3 - Activity-dependent regulation of Prefrontal maturation during Adolescence and its impact on D2R-beta-arrestin control of local GABAergic transmission

Kuei Tseng, University of Illinois

4.4 - Neurodevelopment of Dopamine and Mesocorticolimbic Circuits Shape Trajectories of Risk-Taking and the Specialization of Cognitive Control in Human Adolescence

Ashley Parr, University of Pittsburgh

Parallel Session 5, Emerging Striatal Dopamine Circuits in Threat Processing and Avoidance Learning

5.1 - Collaboration of global and myopic evaluation systems in threat coping

Mitsuko Watabe-Uchida, Harvard University

5.2 - Accumbal dopamine integrates information about salient stimuli and actions to promote learning in dynamic environments

Erin Calipari, Vanderbilt University

5.4 - Dopaminergic circuit dynamics encoding defensive and safety states in response to threat

Susanna Molas, University of Colorado Boulder

5.4 - Striatal endocannabinoid and dopamine signaling mediate one-shot learning

Laurent Venance, INSERM

12:25pm – 2:15pm – Lunch / Poster Session 1

2:15pm – 4:10pm – Parallel Sessions 6 – 10

Parallel Session 6, Neuro-immune mechanisms involved in Parkinson's disease

6.1 - The IMMUPARKNET COST ACTION: The role of IMMUnity in tackling PARKinson's disease through a Translational NETWORK

Cristoforo Comi, University of Piemonte Orientale

6.2 - Can peripheral immune cells inform about Parkinson's disease subtypes?

Marina Romero-Ramos, Aarhus University Hospital

6.3 - A New Signaling Pathway in Microglia-mediated Responses, with Potential Implications in PD

Cintia Roodveldt, University of Sevilla

6.4 - Microbiota-dependent T-cell response to pathogenic alpha-synuclein plays a critical role triggering the development of sensory and motor impairment associated with Parkinson's disease

Rodrigo Pacheco, Universidad San Sebastián

6.5 - Pharmacological targeting of immune responses to rescue motor and non-motor symptomatology in Parkinson's disease.

Annarosa Carta, University of Cagliari

Parallel Session 7, Converging RNA biology and dopamine neuron vulnerability in Parkinson's disease

7.1 - Ribosome dysfunction and selective dopamine neuron vulnerability in Parkinson's disease

Loukia Parisiadou, Northwestern University

7.2 - Mapping RNA oxidation in dopamine neurons in Parkinson's disease

Daniel Arango, Northwestern University

7.3 - Modelling RNA oxidation and ribotoxicity in human midbrain organoids with Parkinson's disease mutations

Elisa Greggio, University of Padova

7.4 - Developing degraders for oxidized RNA to mitigate its harmful effects in dopamine neurons

Gonçalo Bernardes, University of Cambridge

Parallel Session 8, Dopamine in prediction, action, and control: Unravelling dopamine diversity across time and anatomical space

8.1 - Spatial and temporal separation of striatal dopamine signals for guidance and motivation

Mark Howe, Boston University

8.2 - Ventromedial striatal dopamine dynamically integrates motivated action and reward proximity

Ingo Willuhn, Netherlands Institute for Neuroscience

8.3 - Dopamine fast and slow: connecting signalling across time and space with adaptive behaviour

Mark Walton, University of Oxford

8.4 - Role of dopamine in human cognitive control of motivation and stress

Roshan Cools, Donders Institute for Brain, Cognition and Behavior

Parallel Session 9, Dopamine-acetylcholine interactions in striatum

9.1 - Who lets dopamine out? Cholinergic interneurons and regional control of striatal dopamine release

Yanfeng Zhang, University of Exeter

9.2 - A mismatch between striatal cholinergic pauses and dopaminergic reward prediction errors.

Mariana Duhne, University of California, San Francisco

9.3 - Spatially organized striatal dopamine-acetylcholine interactions during behavior

Safa Bouabid, Boston University

9.4 - Dopamine and acetylcholine dynamics during forelimb movements in mice

Nicolas Tritsch, McGill University

Parallel Session 10, Beyond reward: decoding dopamine dynamics in amygdala circuits

10.1 - Amygdala dopamine signals during cue-driven food seeking and ingestion

Andrew Lutas, National Institute of Diabetes and Digestive and Kidney Diseases

10.2 - A lateralized pathway for associating nutrients with flavors

Zachary Knight, University of California, San Francisco

10.3 - Amygdala dopamine supports reward learning and predictions

Kate Wassum, University of California, Los Angeles

10.4 - Basolateral amygdala dopamine encodes dynamic motivational states

Benjamin Saunders, University of Minnesota

4:10pm – 4:30pm – Coffee Break

4:30pm – 5:30pm – Plenary Lecture

Spying on Neuromodulator Dynamics In Vivo by Constructing Multi-Color GRAB Sensors

[Yulong Li, Peking University](#)

6:00pm – 8:15pm – Public Lecture (English)

Advanced Therapies in Parkinson´s Disease

6pm-6.25pm Unmet Needs in Parkinson´s disease.

José A. Obeso, HM CINAC, Fundación HM Hospitales, CIBERNED Madrid, Spain

6:25pm-6:50pm Treatment of motor complications

Irene Martínez, Hospital Universitari i Politècnic La Fe, Valencia, Spain

6:50pm-7:15pm Neuroprotection by striatal GDNF production

Jose López Barneo, Institute of Biomedicine of Seville (IBiS), University Hospital “Virgen del Rocío”, CSIC, University of Seville/CIBERNED, Seville, Spain

7:15pm-7:40pm Reducing/stopping neuronal degeneration

Paolo Calabresi, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Università Cattolica del Sacro Cuore. Roma, Italy

7:40pm-8:15pm General Discussion & Round Table: How best to manage and treat Parkinson’s disease currently?

Irene Martínez, Paolo Calabresi, José López-Barneo, José A. Obeso

Tuesday, May 19

9:00am – 10:00am – Plenary Lecture

Dopamine signaling in isogenic mouse populations predicting addiction vulnerability
Christian Lüscher. University of Geneva, Switzerland

10:00am – 10:30am – Coffee Break

10:30am – 12:25pm – Parallel Sessions 11 – 15

Parallel Session 11, Dopamine and behavioral control: from action selection to persistence and effort

11.1 - Reward-related orbitofrontal activity maintains habit execution independent of decision strategy

Nozomi Asaoka, Kyoto University Graduate School of Medicine

11.2 - Dopamine dynamics represents option valuation, action selection and counterfactuals during value-based decision-making in macaque monkeys

Masayuki Matsumoto, Kyoto University

11.3 - Dopamine signaling for persistent goal pursuit

Masaaki Ogawa, Shiga University of Medical Science

11.4 - Attentional and energizing motivational functions of the human midbrain

Philippe Tobler, University of Zürich

Parallel Session 12, From Rodents to Humans: Exploring Neuromelanin's Role in Parkinson's Disease

12.1 - Development and characterization of pigmented animal models of Parkinson's disease

Jose Luis Lanciego, University of Navarra

12.2 - Neuronal Vulnerability in Parkinson's Disease

Miquel Vila, Vall d'Hebron Institut de Recerca

12.3 - Longitudinal neuromelanin imaging in Parkinson's disease in humans and rat model

Jean-Baptiste Perot, Lausanne University Hospital

12.4 - Targeting neuromelanin overload with focused ultrasound in non-human primates

Javier Blesa, Fundación de Investigación HM Hospitales

Parallel Session 13, Revisiting sex differences in the regulation of dopamine release to uncover novel mechanisms of motivated behaviors

13.1 - Alcohol-Induced Oxytocin Circuit Dysfunction Underlies Maternal Neglect

Sebastiano Bariselli, Humanitas University

13.2 - Sex-specific effects of pain on fentanyl use and dopamine neuron dynamics

Jessica Higginbotham, Washington University in St. Louis

13.3 - Ethanol effects on dopaminergic signaling in the dorsal striatum across species and sex: interactions with acetylcholine

Armando Salinas, LSU Health Sciences Center at Shreveport

13.4 - Pain-induced alterations in the dopamine mesocorticolimbic system and their behavioural consequences: crosstalk with neuroimmunity

Lucia Hipolito, Universitat de Valencia

Parallel Session 14, Here be dragons: Mapping the uncharted territories of dopamine topology

14.1 - Pallido-Midbrain Endocannabinoids Actuate Dopamine-based Action Selection

Miguel Luján, University of Illinois

14.2 - Dopamine signaling in the prelimbic cortex encodes reward consumption and scales with reward identity and history

Laia Castell, Northwestern University

14.3 - Dopamine dynamics as a regulatory mechanism for shifting between defensive and reward-seeking behaviors

Iku Tsutsui-Kimura, Hokkaido University

14.4 - Prefrontal D1 receptors are linked to brain reactivity to drug cues in opioid use disorder

Peter G. Manza, Kahlert Institute of Addiction Medicine

Parallel Session 15, Dopamine and Schizophrenia: Translational Approaches from mice to humans

15.1 - Testing dopaminergic computational models of hallucinations in schizophrenia

Guillermo Horga, Columbia University

15.2 - Perception and misperception in a mouse model for the 22q11.2 deletion

Christoph Kellendonk, Columbia University

15.3 - Antipsychotic drug modulation of striatal dopamine, acetylcholine, and spiny-projection neurons

Jones Parker, Northwestern University

15.4 - Evidence for Dissociation between Midbrain and Striatal Dopamine in Schizophrenia

Anissa Abi-Dargham, University of Stony Brook

12:25pm – 2:15pm – Lunch / Poster Session 2

2:15pm – 4:10pm – Parallel Sessions 16 – 20

Parallel Session 16, Motivational decision-making, exertion of effort, and regulation of physical activity: cortical and subcortical dopamine mechanisms

16.1 - Effect of exercise on effort-based decision-making; the role of CDFN immunoreactivity in the mesocorticolimbic dopaminergic pathways in mice.

Merce Correa, Universitat Jaume I

16.2 - The Role of Cortical Dopamine in Effort-Based Responding in Rats

Wolfgang Hauber, University of Stuttgart

16.3 - Effort-related motivational effects of atypical dopamine transport inhibitors in rodent models of decision making: implications for the treatment of motivational dysfunction in humans.

John Salamone, University of Connecticut

16.4 - Sex-Dependent Neurobehavioral Profiles in a Novel DAT Transgenic Rat Model: Implications for Stress-Related Vulnerability

Marta Pardo, University of Valencia

Parallel Session 17, Functional diversity as a design principle: From molecular and anatomical heterogeneity to circuit flexibility

17.1 - Circuit control of dopaminergic neurons of the substantia nigra pars lateralis

Zayd Khaliq, National Institute of Neurological Disorders and Stroke

17.2 - Functional diversity of substantia nigra dopamine neurons in motivated behaviour

Sabine Krabbe, German Center for Neurodegenerative Diseases

17.3 - Calbindin-Expression Divides Midbrain Dopaminergic Populations with Distinct Roles in Locomotion

Jean-Francois Poulin, McGill University

17.4 - Midbrain dopamine D2R signaling regulates motivated behaviors in a sex-dependent manner

Emmanuel Valjent, INSERM

Parallel Session 18, Bridging Metabolism and Motivation: The Central Role of Insulin

18.1 - Adaptive and Impaired Insulin Signaling in Reward Circuits: Insights from Neuroimaging

Stephanie Kullmann, Helmholtz Center Munich, University of Tübingen, Germany

18.2 - Actions and consequences of insulin on striatal cholinergic interneurons and dopamine release

Jyoti Patel, NYU Grossman School of Medicine

18.3 - Insulin indirectly modulates pedunculopontine tegmental nucleus projections to the ventral tegmental area.

Stephanie Borgland, Hotchkiss Brain Institute

18.4 - Insulin's ability to fine tune striatal dopamine release in obesity

Miriam Bocarsly, Rutgers New Jersey Medical School

Parallel Session 19, Computational Efforts to Explain Dopamine Dynamics Throughout the Striatum

19.1 - Circuit mechanisms that generate heterogeneous dopamine signaling and shape striatal ensemble dynamics

Garret Stuber, University of Washington

19.2 - Cholinergic modulation of dopamine release drives effortful behavior

Neir Eshel, Stanford University

19.3 - Broadly-projecting mesolimbic dopamine neurons implement a distributional critic across the striatum

Sara Matias, Harvard University

19.4 - Dopamine Ramps in the Medial Nucleus Accumbens Encode Discounted Future Value on a Moment-by-Moment Basis

Johannes De Jong, University of California, Berkeley

Parallel Session 20, Dopamine circuit plasticity mechanisms in reward-free motor learning

20.1 - Investigating the role of subtype-specific dopamine in motor learning

Shivathimhai Nagappan, Northwestern University

20.2 - Dopamine dynamics underlie birdsong learning

Jiaxuan Qi, HHMI, Princeton University

20.3 - Distinct direct striatonigral pathways on regulating motor skill learning

Lupeng Wang, National Institute on Aging

20.4 - Thalamus gates acetylcholine-dependent dopamine release during motor skill acquisition

Talia Lerner, Northwestern University

4:10pm – 4:30pm – Coffee Break

4:30pm – 5:30pm – Plenary Lecture

New Drugs, Old Targets: Tweaking the Dopamine System to Treat Substance Use

Disorders

Amy Newman, National Institutes of Health

6:00pm – 8:00pm – Alcazar Visit & City Tour (limited places, pre-registration required)

Wednesday, May 20

9:00am – 10:00am – Plenary Lecture

Nucleus accumbens and the architecture of associative learning: from simple cues to complex associative chains

Ana Joao Rodrigues, University of Minho

10:00am – 10:30am – Coffee Break

10:30am – 12:25pm – Parallel Sessions 21 – 25

Parallel Session 21, The role of dopaminergic systems in associating and integrating world information to motivate actions

21.1 - The differential role of nigrostriatal and mesolimbic dopaminergic neurons in motivating effective action

Oded Klavir, University of Haifa

21.2 - Role of dopamine inhibition in punishment-resistant reward-seeking behavior

Nkatha Mwenda, Northwestern University

21.3 - Neural mechanisms underlying slow and fast associative learning

Naoshige Uchida, Harvard University

21.4 - Activity of VTA dopamine neurons during free social interactions

Ben Engelhard, Technion - Israel Institute of Technology

Parallel Session 22, Glia and matrix in PD and dopamine transmission

22.1 - Microglial modification of electrophysiological and synaptic dysfunction and pathology in PD

Dayne Beccano-Kelly, Cardiff University

22.2 - Dopamine neuron activity in PD human brain organoids

Rosario Sanchez-Pernaute, Bio-Bizkaia

22.3 - Reactive Astrocytes Mediate Alpha-Synuclein Neurotoxicity in iPSC-Derived Dopaminergic Neurons

Nora Bengoa Vergniory, Achucarro Basque Center for Neuroscience

22.4 - Diverse Roles for Astrocytes in Shaping Dopamine Transmission in the Striatum

Stephanie Cragg, University of Oxford

Parallel Session 23, Dopamine's Role in the Hippocampal Formation: From Novelty to Associative and Spatial Memories

23.1 - Dopamine-dependent modulation of hippocampal representations during navigation, novelty, and memory retrieval

Mark Sheffield, The University of Chicago

23.2 - Delicious food, dopamine and hippocampal area CA2

Rebecca Piskorowski, Sorbonne University, CNRS

23.3 - Age-Dependent Dopamine Modulation in the Lateral Entorhinal Cortex and Its Role in Novelty Detection

Susana Mingote, CUNY Advanced Science Research Center

23.4 - Dopamine disruption in the entorhinal cortex of Alzheimer's disease mouse models

Kei Igarashi, University of California, Irvine

Parallel Session 24, DATs all folks: dynamic regulation and functional importance of dopamine transporters in physiological and pathophysiological states

24.1 - Functional serotonergic plasticities arising in the context of a multi disorder-associated, human dopamine transporter mutation

Randy Blakely, Florida Atlantic University

24.2 - Kappa opioid receptor-mediated locomotor suppression, aversive behavior and enhanced cocaine reward require threonine-53 phosphorylation of dopamine transporter

Lankupalle Jayanthi, Virginia Commonwealth University

24.3 - Dopamine transporter (DAT) regulation by nuclear progesterone receptors

Adele Stewart, University of Iowa

24.4 - Contributions of the astrocytic dopamine transporter to drug addiction

Tristan Hynes, Simon Fraser University

Parallel Session 25, Dopamine and Individuality: Inter-individual Variability, Specialization, and Social Context in Adaptive and Maladaptive Behaviors

25.1 - Stuck on a single channel: cocaine hijacks the ventrolateral striatal orofacial circuit

Ami Citri, The Hebrew University of Jerusalem

25.2 - A New Window on Accumbens Dopamine

Joshua Berke, University of California

25.3 - Cell-Type-Specific Striatal Control of Strategy-Dependent Decision Parameters

Alban De Kerchove D'exaerde, FNRS-Université Libre de Bruxelles

25.4 - Dopamine, Social Niches and the Making of Individuals in Semi-Natural Mouse Societies

Philippe Faure, Centre National de la Recherche Scientifique; ESPCI

12:25pm – 2:15pm – Lunch / Poster Session 3

2:15pm – 4:10pm – Parallel Sessions 26 – 30

Parallel Session 26, Integrative roles of dopamine in sensory and emotional processing

26.1 – Impact of Dopamine Depletion on Sensorimotor Integration in the Dorsolateral Striatum

Roberto De La Torre Martinez, Karolinska Institute

26.2 - Dopamine synchronizes multisensory responses in the dorsomedial striatum

Ramón Reig García, Instituto de Neurociencias UMH-CSIC

26.3 - Noradrenergic modulation of dopaminergic neurons in the dorsal raphe nucleus contributes to stress-induced reward insensitivity.

Raffaella Tonini, Istituto Italiano di Tecnologia

26.4 - Dorsal raphe dopamine neurons are critical for survival-oriented vigilance

François Georges, Université de Bordeaux

Parallel Session 27, Dopamine vs noradrenaline contributions to non-motor features of Parkinson's disease: From animal models to clinicopathology

27.1 - Predicted trajectory of neuronal loss in the noradrenergic locus coeruleus versus midbrain dopamine neurons in Parkinson's disease and what makes the difference

Glenda Halliday, University of Sydney

27.2 - Dissecting the contributions of dopamine and norepinephrine loss to cognitive deficits in Parkinson's disease

Hong-Yuan Chu, Georgetown University

27.3 - Potential role of cortical noradrenergic denervation to early cognitive impairments in the MPTP-treated monkey model of Parkinson's disease

Yoland Smith, Emory University

27.4 - Selective and non-selective contributions of degeneration in the substantia nigra, locus coeruleus and nucleus basalis of Meynert to the cognitive and behavioural phenotype of Parkinson's disease

Madeleine Sharp, McGill University

Parallel Session 28, Novel sensors, technologies, and assays for measuring dopamine

28.1 - A novel red sensor for measurements of both phasic and tonic dopamine release in vivo

Kwun Nok Mimi Man, Max Planck Florida Institute for Neuroscience

28.2 - Seeing Monoamines in a New Light: Red and Far-Red GRAB Sensors for in vivo Multiplex Imaging

Jiesi Feng, Peking University

28.3 - Multiplexed measurement of dopamine with multielectrode arrays and fast-scan cyclic voltammetry

Alexander Zestos, American University

28.4 - Multiplexed Measurements of Neurotransmitters and Focused-ultrasound Regulation of Dopamine

Jill Venton, University of Virginia

Parallel Session 29, Metabolic signals and dopamine transmission

29.1 - An integrative perspective on dopamine and metabolic function in schizophrenia

Irena Dajic, Medical University of Vienna

29.2 - Unique sensitivity of dopamine transmission and signaling to brain lipids

Pierre Trifilieff, Université de Bordeaux

29.3 - Lipid Grease for the Dopamine Machine: How Membrane Lipids Fine-Tune Dopamine Transporter Function

Harald Sitte, Medical University of Vienna

29.4 - From Genes to Circuits: Striatal Control of Reward and Metabolic Phenotypes

Enrica Montalban, University of Poitiers-LNEC

Parallel Session 30, Cues, craving, and consequences: How drug and reward signals shape appetitive behaviour

30.1 - The cues before the craving: How discriminative stimuli trigger cocaine seeking and the contributions of cortico-accumbens neural pathways

Anna Samaha, Université de Montréal

30.2 - Sex differences in cue-evoked food-seeking; novel insights from machine-learning based analyses using LabGym.

Carrie Ferrario, University of Michigan

30.3 - Monoamine dynamics in the human amygdala in response to valenced stimuli

Alex Difeliceantonio, Virginia Tech

30.4 - Stimulus control of habitual behaviour: How identifying and manipulating the stimuli that control habits can be used to understand behavioural control.

Laura Corbit, University of Toronto

Parallel Session 40, New Frontiers in Dopaminergic Signaling: Bidirectional Brain-Body Regulation in Neurological and Neuropsychiatric Disorders

40.1 - Mechanisms of Microbial Regulation of Psychostimulant Abuse

Angela Carter, University of Alabama at Birmingham

40.2 - Dopamine-Driven Neuro-Immune Crosstalk: From Brain Circuits to Splenic Immunity

Habibeh Khoshbouei, University of Florida

40.3 - Gastric inhibitory peptide regulation of cocaine actions

Aurelio Galli, University Alabama

<p>40.4 - Dysregulation of iron metabolism in the body-brain axis in Parkinson's disease: clues from spatial transcriptomics and proteomics <i>Malu Tansey, Indiana University</i></p>
<p>4:10pm – 4:30pm – Coffee Break</p>
<p>5:00pm – 6:15pm – Debate – What primarily drives degeneration in Parkinson's disease, α-synuclein or mitochondrial dysfunction, what trigger the unstoppable degeneration mechanisms driving to neuronal death</p> <p>5.00pm – 5.05pm – Introduction by David Sulzer (Moderator)</p> <p>5.05pm – 5.25pm – Mitochondrial dysfunction is a common determinant of neurodegeneration in Parkinson's disease <i>James Surmeier, Northwestern University</i></p> <p>5.25pm – 5.45pm – Progressive Parkinson's disease requires α-synuclein aggregation <i>Michael Henderson, Van Andel Institute</i></p> <p>5.45pm – 5.55pm – Refutation and Discussion</p> <p>5.55pm – 6.05pm – Audience Q&A</p> <p>6.05pm – 6.15pm - Conclusions</p>
<p>6:15pm – 6:45pm – Business Meeting</p>
<p>7:30pm – 10:00pm – Conference Dinner at an offsite location</p>

Thursday, May 21

<p>9:00am – 10:00am – Plenary Lecture Running on Dopamine: Exercise, Motor Behavior, and Striatal Plasticity <i>Margaret Rice, New York University</i></p>
<p>10:00am – 10:30am – Coffee Break</p>
<p>10:30am – 12:25pm – Parallel Sessions 31 – 35</p> <p>Parallel Session 31, A fork in – or the end of – the road? Challenges to classic RL models of dopamine function and where we might go from here</p> <p>31.1 - Prediction Error vs. Value: A Formal Test of Dopamine's Role in Reinforcement Learning <i>Mihaela Iordanova, Concordia University</i></p>

31.2 - Mechanistic origins of DA wave dynamics that vectorize prediction errors and regional policy value across the striatum

Arif Hamid, University of Minnesota

31.3 - Decoding the information content of midbrain prediction errors for value-orthogonal reward features

Thorsten Kahnt, National Institute of Health

31.4 - Toward a framework for dopaminergic heterogeneity

Nathaniel Daw, Princeton University

Parallel Session 32, Biomarkers and cognitive implications of aging-related dopamine decline

32.1 - Limitations of memory augmentation through enhanced dopamine in aging

Anne Berry, Brandeis University

32.2 - The role of small-vessel disease, astrocyte function, and inflammation for dopamine losses in aging

Nina Karalija, Umeå University

32.3 - The Role of Dopamine and Brain Functional Dynamics in Cognitive Aging: Evidence from Large-Scale Multimodal Multitracer Studies

Alireza Salami, Karolinska Institute

32.4 - A blood-based DNA methylation marker of the dopamine system derived from PET imaging

Goran Papenberg, Karolinska Institute

Parallel Session 33, The architecture of dopaminergic neurons: from molecular organization to behavior and disease

33.1 - The mysterious nature of the origin and triggers of dopamine release in the ventral midbrain and striatum

Louis-Eric Trudeau, Université de Montréal

33.2 - Synaptojanin1 and VPS35 Cooperate at Presynaptic Endosomes to Regulate Dopamine Release

Pingyue Pan, Rutgers University

33.3 - Dopamine hub synapses in the mouse striatum : From discovery to plasticity
Etienne Herzog, Interdisciplinary Institute for NeuroScience

33.4 - Linking region-specific dopamine release signatures in reward-guided behavior to the nanoscale architecture of dopaminergic release sites.
Ulrik Gether, University of Copenhagen

Parallel Session 34, Dopamine dysregulated: the cortico-basal ganglia network in hypokinesia and dyskinesia

34.1 - Cortico-striatal activity maps in rodent models of hypokinesia and dyskinesia
M. Angela Cenci Nilsson, Lund University

34.2 - Striatal Adaptations to Repetitive Levodopa Therapy
Rodrigo Paz, University of California, San Francisco

34.3 - Cortico-subthalamic oscillations differ during behavioral states of levodopa-induced dyskinesia
Jeroen Habets, Charité Berlin

34.4 - Opposite dopamine perturbations converge on MSN axonal plasticity to drive dyskinesia
Yoshihumi Abe, Keio University School of Medicine

Parallel Session 35, Omics Approaches and Cellular Reprogramming in Parkinson's Disease

35.1 - Partial Reprogramming in the CNS: A New Strategy Against Neurodegeneration and Brain Aging
Aida Platero-Luengo, Biomedicine Institute of Seville

35.2 - Single-cell-RNA-seq and iPSC modeling uncover glial- cell type specific effects in PD pathology
Antonella Consiglio, The Institute of Biomedicine of the University of Barcelona

35.3 - Do omics-defined cellular risk maps align with selective neuronal loss in Parkinson's disease? Evidence from a neuropathology meta-analysis
Nathan Skene, Dementia Research Institute

35.4 - Hidden Players in Parkinson's Disease: Striatal Glia Through Single-Nucleus Transcriptomics
Ana Munoz-Manchado, University of Cádiz

12:25pm – 2:15pm – Lunch / Poster Session 4

2:15pm – 4:10pm – Parallel Sessions 36 – 41

Parallel Session 36, Dopamine neuron subtype-specific circuit development and repair

36.1 - Wiring the Dopamine System: Mechanisms and Regenerative Therapies for Parkinson's Disease.

Martin Lévesque, Université Laval

36.2 - Genetic sparse labeling maps midbrain dopaminergic connectivity across development, adulthood and degeneration at single-neuron resolution.

Jeroen Pasterkamp, University Medical Center Utrecht

36.3 - Dopaminergic synapse organizers in health and disease

Akiko Terauchi, Boston Children's Hospital, Harvard Medical School

36.4 - Next generation approaches to improved cell-based therapies for Parkinson's disease

Clare Parish, The Florey Institute of Neuroscience and Mental Health

Parallel Session 37, Prediction errors beyond reward: dopamine shaping perceptual decisions

37.1 - Dopaminergic action prediction errors serve as a value-free teaching signal

Francesca Greenstreet, Imperial College London

37.2 - Striatal dopamine signals errors in cue prediction during sensory preconditioning

Geoffrey Schoenbaum, National Institute on Drug Abuse

37.3 - Dorsal striatal dopamine integrates sensory and reward prediction errors to guide perceptual decisions

Matthias Fritsche, University of Oxford

37.4 - Beyond reward: dopamine signals effort prediction errors to guide energy-efficient movement

Qian Li, Washington University School of Medicine in St. Louis

Parallel Session 38, Dopaminergic neuron diversity in the substantia nigra and its relevance for Parkinson's disease

38.1 - Coordinated Spatial Organization of Basal Ganglia Structures Revealed by Dopamine Subtype Projectome Mapping
Raj Awatramani, Northwestern University

38.2 - Opposite responses of vulnerable and resilient SNc DA neurons to excitatory input
Thomas Hnasko, University of California, San Diego

38.3 - Physiological differences between dopaminergic subpopulations in a novel model of Parkinson's disease cholinopathy.
Rebekah Evans, Georgetown University

38.4 - Sex-specific mechanisms of dopamine neuron resilience across species
Zachary Freyberg, University of Pittsburgh

Parallel Session 39, Imaging dopamine, neuromelanin, and iron in the human brain: applications in neurodegenerative and psychiatric illness

39.1 - Neuromelanin in brain aging, neurodegeneration and its Magnetic Resonance Imaging as biomarker in neurodegenerative diseases
Luigi Zecca, Institute of Biomedical Technologies, National Research Council of Italy

39.2 - Validation and application of neuromelanin-sensitive MRI outside of neurodegenerative disorders
Clifford Cassidy, Stony Brook University

39.3 - Linking Neuromelanin, Brain Iron, and Dopamine Synthesis in Schizophrenia: An MRI and PET Study
Luke Vano, King's College London

39.4 - Neuroimaging and transcriptomic evidence for abnormal dopaminergic system and iron homeostasis in Tourette syndrome
Harald Möller, Max Planck Institute for Human Cognitive and Brain Sciences

Parallel Session 41, Dopamine and vulnerabilities in neurodevelopmental disorder

41.1 - Fueling dopamine dysfunction upon prenatal cannabis exposure
Miriam Melis, University of Cagliari

41.2 - Disrupted dopaminergic transmission in Autism Spectrum Disorder
Mohamed Jaber, INSERM

41.3 - Molecular and behavioral profile of CBD for a therapeutical approach of peripartum depression in a mouse model

Olga Valverde Granados, Université Pompeu Fabra

41.4 - Neuronal circuits of social motivation: from adaptation to vulnerability

Camilla Bellone, Geneva University

4:10pm – 4:30pm – Coffee Break

4:30pm – 5:30pm – Plenary Lecture

Distinct circuits for specific movements in the basal ganglia

Rui Costa, Allen Institute

5:30pm – 5:45pm – Closing Remarks

6:00pm – 8:00pm – Seville Boat Tour (limited places, pre-registration required)