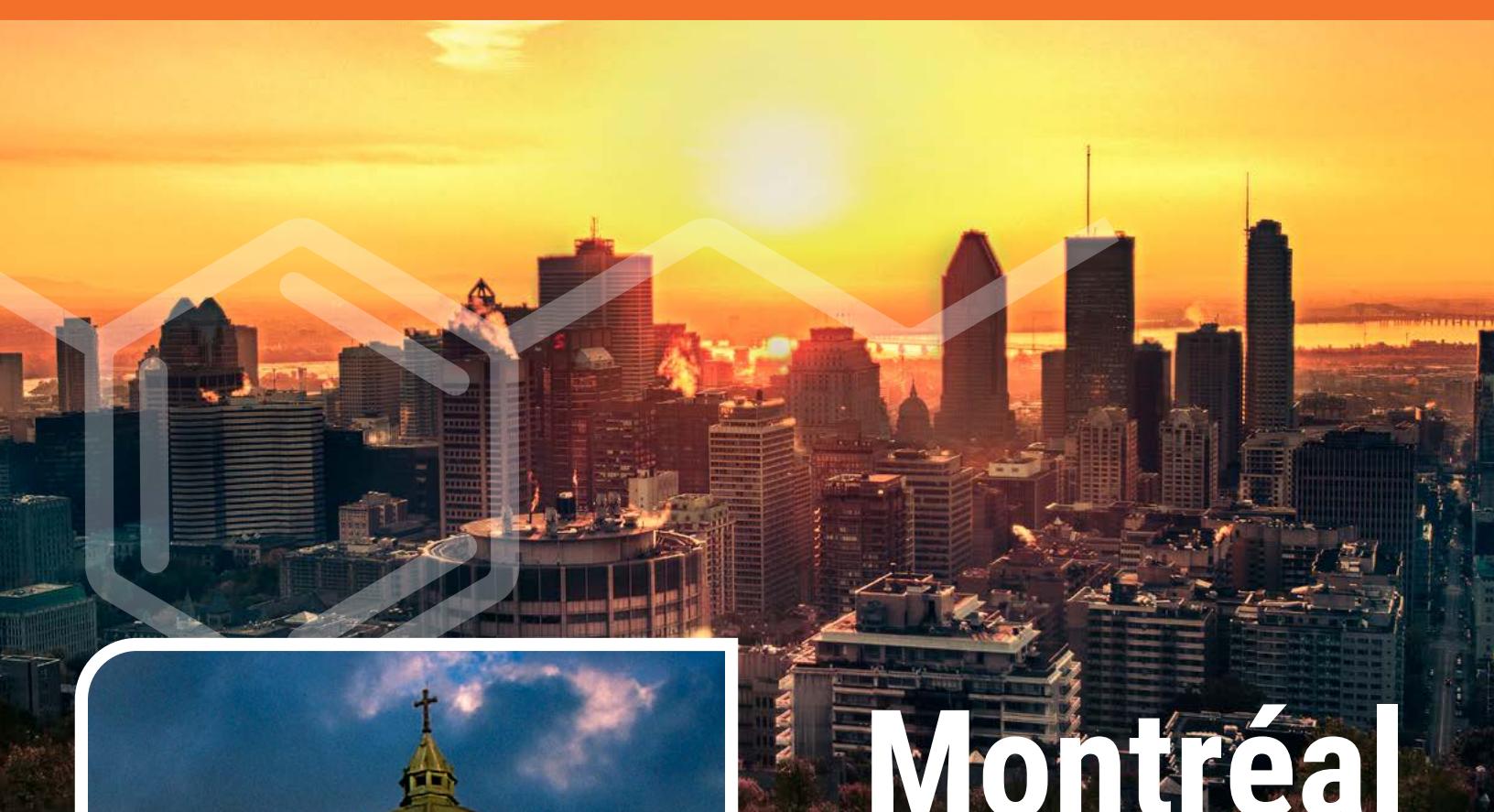




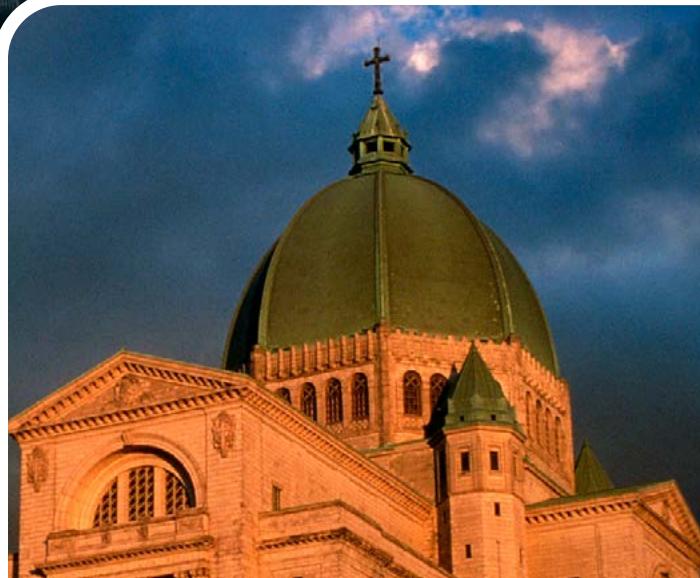
DOPAMINE2022



Montréal

Centre Mont-Royal

Montréal, Canada
May 21 - 25, 2022



#Dopamine2022



@DopamineSociety



www.dopaminesociety.org

PROGRAM AT A GLANCE

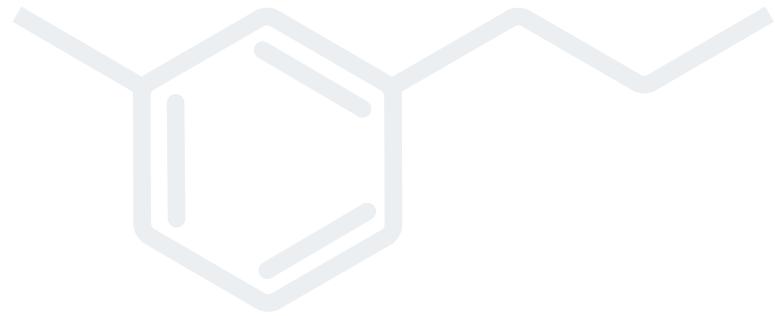
		Dopamine 2022 Meeting Program At-A-Glance				
Time	Saturday 21-May	Sunday 22-May	Monday 23-May	Tuesday 24-May	Wednesday 25-May	
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Registration / Information Desk Open 3:00pm - 8:00pm		Arrival & registration (8:30am - 9:00am)				
Welcome Reception (6:15pm - 8:00pm)		Plenary Lecture, Lin Tian , University of California, Davis Watching the brain in action: creating tools for functional analysis of neural circuitry				
Public Lecture, Anna Samaha , Université de Montréal (En français) L'addiction aux drogues: trop ou pas assez de dopamine?		Plenary Lecture, Joséhuau Berte , University of California San Francisco What does dopamine mean? (9:00am - 10:00am)				
Musical Social Events and Cocktails (6:00pm - 8:00pm)		Plenary Lecture, Philippe Faure , Université Pierre et Marie Curie, Paris Social determinants of inter-individual variability in decision making and vulnerability to nicotine (9:00am - 10:00am)				
Conference Dinner (7:00pm - 10:00pm)		Plenary Lecture, Stephanie Craig , Oxford University Axonal gating of dopamine transmission in the striatum (9:00am - 10:00am)				
*Program subject to slight changes		Coffee Break (10:00am - 10:30am)				
		Parallel Session 1 Parallel Session 2 Neurolearning Sensitive (NIR) a method to investigate the signaling and technologies and novel insights from the human brain				
		Parallel Session 3 Mechanisms controlling the activity of URK2 and GTPase activity				
		Parallel Session 5 The dopamine D2 receptor: From molecules to dopaminergic neurons				
		Parallel Session 7 Dopamine D2/3 The intriguing responses to the core complicated we thought				
		Parallel Session 9 Dopamine-gal antidepressants potentiate effects of psychostimulants on mesocorticol neurons and model-based and simulations between ability				
		Parallel Session 10 SSRI inhibitory signaling, from dopamine release to dopamine reuptake				
		Parallel Session 12 Forms and functions of dopamine and principles of dopamine signaling				
		Parallel Session 13 Data's complex interactions with dopamine and genetics				
		Parallel Session 14 Data's complex interactions with dopamine and genetics				
		Parallel Session 15 Serotonin and dopamine interactions in Parkinson's disease				
		Parallel Session 17 Heterogeneous modulation of dopamine neuron signaling				
		Parallel Session 18 Heterogeneous modulation of dopamine neurons and their control of dopamine signaling				
		Parallel Session 19 The development of dopamine as a driver of dopa mechanism taking into account the heterogeneity of psychopathology				
		Parallel Session 20 Dopamine as a driver of dopa mechanism taking into account the heterogeneity of psychopathology				
		Parallel Session 22 Dissecting the mechanistic regulation of dopamine release using positive and negative feedback				
		Parallel Session 23 Regulation of dopamine release from midbrain neurons by dopamine transporter and GABA receptors				
		Parallel Session 24 Differences in dopamine release and regulation between midbrain and nigrostriatal systems				
		Parallel Session 25 Dopamine beyond reward				
		Parallel Session 26 Common genetic and pathophysiological drivers of dopamine dysfunction in neuropsychiatric disorders and neurodegenerative diseases				
		Parallel Session 27 Drug trafficking and postsynaptic mechanisms translating from poster sessions				
		Parallel Session 28 Selected talks from poster sessions				
		Parallel Session 29 Dopamine circuits and motivation action				
		Parallel Session 30 Selected talks from poster sessions				
		Parallel Session 31 Cannabinoid receptors and dopamine release;				
		Parallel Session 32 Dopamine regulation of midbrain release; from reward to motivation and consequences				
		Parallel Session 33 Multigene GCR Unusual subjects; regulation of dopamine and other disease processes				
		Parallel Session 34 Inflammation and dopamine and other disease systems				
		Parallel Session 35 Guts and dobs: Effects in dopamine and circuit function in synaptic plasticity and memory				
		Parallel Session 36 Ventral striatal neurotoxins and opioid and other addictions				
		Parallel Session 37 Role of dopamine and neurotoxins in reward-driven behavior				
		Parallel Session 38 Genetic effects in dopamine and brain regions in synaptic plasticity and memory				
		Coffee Break (10:00am - 10:30am)				
		Coffee Break (12:20pm - 12:35pm)				
		Lunch / Poster & Exhibit Session 1 (12:20pm - 12:35pm)				
		Lunch / Poster & Exhibit Session 2 (12:20pm - 12:35pm)				
		Lunch / Poster & Exhibit Session 3 (12:20pm - 12:35pm)				
		Lunch / Poster & Exhibit Session 4 (12:20pm - 12:35pm)				
		Coffee Break (12:20pm - 12:35pm)				
		Plenary Lecture, Dalton James Sumner , Northwestern University Experimental Econometrics on Reward Neurons (5:00pm - 6:15pm)				
		Plenary Lecture, Wolfram Schultz , Cambridge Development and diversification of natural dopamine neurons				
		Plenary Lecture, Reinhard Avermann , Northwestern University Watching the brain in action: creating tools for functional analysis of neural circuitry				
		Plenary Lecture, Stephanie Craig , Oxford University Axonal gating of dopamine transmission in the striatum (9:00am - 10:00am)				
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		Plenary Lecture, <b				



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LETTER FROM CHAIRS



Dear dopamine fans, we are very happy to welcome you to Montréal for the Dopamine 2022 meeting! Finally!

Bienvenue à Montréal, ville de culture et de science et reconnue pour la vivacité de sa communauté du domaine des neurosciences et de la dopamine en particulier.

Welcome to Montréal, a city of culture and science that is well recognized for the strength of its neuroscience community and for research on dopamine in particular.

We thank you all for your patience with the two-year delay imposed on us all by the world pandemic. From Dopamine 2020, it became Dopamine 2021 and now Dopamine 2022. We are just a little over 400 dopamine enthusiasts, which is a great number to ensure a critical mass of great science and stimulating discussions.

This meeting is a special one for another reason. When you join us on May 24 at 6PM for the business meeting, you will have the privilege of becoming a founding member of the **Dopamine Society!** We hope that the creation of this new society will help to provide a stable foundation for the organization of the next Dopamine meetings and help to keep the momentum going, from meeting to meeting.

We hope that you enjoy your time in Montréal in and out of the Mont-Royal Center and that you will join us again for the next meeting, that is expected to be held in 2026.

In closing, a special thanks to the Canadian Institutes of Health Research (CIHR), the National Institute on Drug Abuse (NIDA), the Aligning Science Across Parkinson's (ASAP) initiative and Tourisme Montréal for their invaluable support. Thanks also to our sponsors, iNSCOPIX, BLIQ Photonics and Tucker-Davis Technologies. Without them, this meeting would not have been possible.

David Sulzer and Louis-Eric Trudeau
Dopamine 2022 co-chairs

DOPAMINE 2022 LEADERSHIP

Dopamine 2022 was led by **Louis-Eric Trudeau** and **David Sulzer** and supported by a diverse international organizing committee.

ORGANIZING COMMITTEE

Louis-Eric Trudeau, Université de Montréal (Co-chair)

David Sulzer, Columbia University (Co-Chair)

Rui Costa, Columbia University

Alain Dagher, McGill University

Cecilia Flores, McGill University

Edward Fon, McGill University

Bruno Giros, McGill University

Yasmin Hurd, Mt. Sinai School of Medicine

Jonathan Javitch, Columbia University

Marco Layton, McGill University

Anthony Phillips, University of British Columbia

Stephen Rayport, Columbia University

Margaret Rice, New York University

Anne-Noel Samaha, Université de Montréal

Peter Shizgal, Concordia University

DOPAMINE ADMINISTRATION

Association Secretariat & Conference Management

Podium Conference Specialists

Michelle Smith

Marischal De Armond

Sam Ferraby



Need help managing your Conference or Association?



CONFERENCE MANAGEMENT

From conception to delivery and post conference review, we are here to help you plan, prepare and deliver an outstanding conference.



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As a busy researcher and scientist, you've already got a lot on your plate without having to worry about managing your society. Step up and lead, knowing we can help.



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GENERAL CONFERENCE INFORMATION

CONFERENCE VENUE

Centre Mont-Royal
2200 Mansfield Street
Montréal, Quebec
H3A 3R8

All scientific conference sessions will take place at the Centre Mont-Royal. Social events are taking place at a variety of locations in Montréal.

REGISTRATION

The conference registration fees include access to all sessions including plenary speaker and symposium, contributed sessions, poster sessions and the welcome reception. Registration also includes daily refreshment breaks and lunches.

NAME BADGES

Your name badge is your admission ticket to the conference sessions, coffee breaks, lunch and poster sessions and reception. Please wear it at all times. At the end of the Conference we ask that you recycle your name badge in one of the name badge recycling stations that will be set out or leave it at the Registration Desk.

REGISTRATION AND INFORMATION DESK

The Dopamine Registration and information desk, on the main floor of the Centre Mont-Royal, will be open during the following dates and times:

Saturday May 21, 2022	15:00 – 20:00
Sunday May 22, 2022	08:30 – 19:00
Monday May 23, 2022	08:30 – 17:30
Tuesday May 24, 2022	08:30 – 18:30
Wednesday May 25, 2022	08:30 – 17:45

If you need assistance during the conference, please visit the Registration Desk.

POSTER INFORMATION

Set up/Removal

There are four poster sessions during the conference and posters have been allocated to one of the sessions based on poster themes. Poster presenters must set-up and remove their posters during the following times.

Poster Session 1 – Sunday May 22

Poster hours: 12:20 – 14:15
Set-up: 08:30 – 12:20
Tear down: No later than 17:30

Poster Session 2 – Monday May 23

Poster hours: 12:20 – 14:15
Set-up: 08:30 – 12:20
Tear down: No later than 17:30

Poster Session 3 – Tuesday May 24

Poster hours: 12:20 – 14:15
Set-up: 08:30 – 12:20
Tear down: No later than 18:00

Poster Session 4 – Wednesday May 25

Poster hours: 12:20 – 14:15
Set-up: 08:30 – 12:20
Tear down: Immediately after the poster session concludes at 14:15

Any posters that are not taken down by the removal deadline will be held at the registration desk until the end of the Conference. Any posters that remain unclaimed by the end of the Conference will be disposed of.

Information on Poster Authors (Lead), Poster Numbers and Poster Titles begins on page 35. Digital copies can be downloaded from the [Dopamine website](#).

STAFF

Dopamine 2022 staff from Podium Conference Specialists can be identified by orange ribbons on their name badges. Feel free to ask anyone of our staff for assistance. For immediate assistance please visit us at the Registration Desk.

INTERNET SERVICES

Wireless Internet is available to Dopamine Conference delegates for no charge. Simply choose the **CMR WiFi Network**, enter the username **Dopamine** and the password **Dopamine2022**. Kindly note, the WiFi strength is ideal for checking emails and websites but is not strong enough for streaming videos or heavy social media use.

If you are active on social media, make sure to hashtag **#Dopamine2022 @DopamineSociety** when referring to the meeting. We ask all Dopamine delegates to respect no live tweeting of presentations without prior approval from the speakers/authors. We encourage social tweets about the conference and look forward to growing our online community.

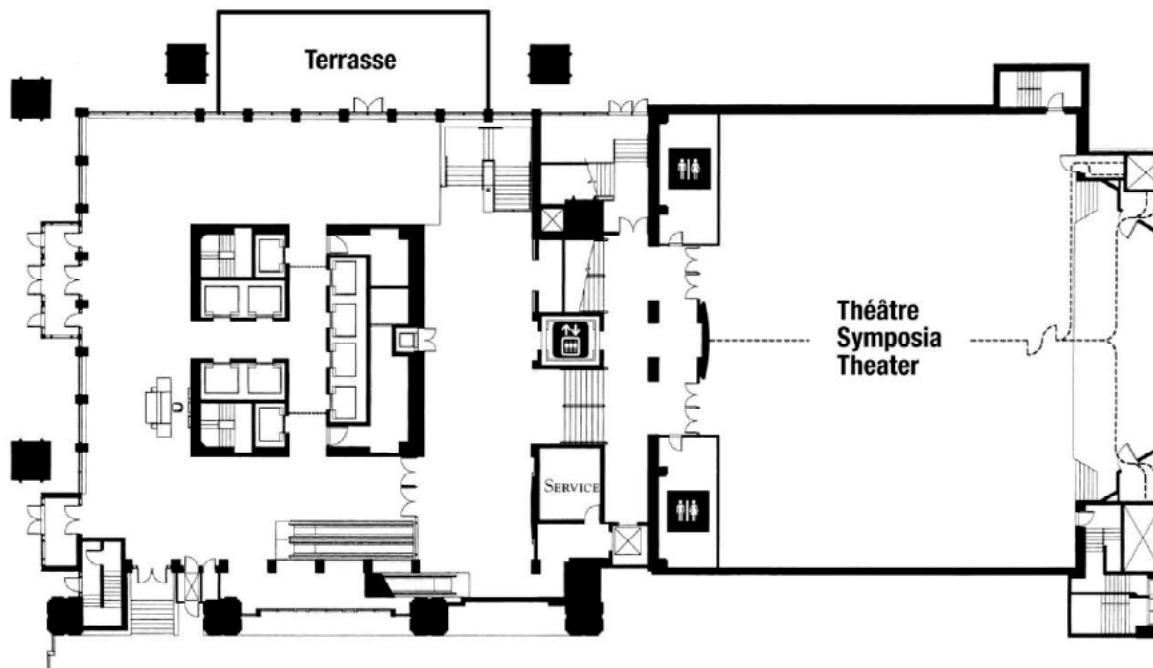
If you require assistance, please visit the registration desk and we will endeavour to assist you.

NO SMOKING POLICY

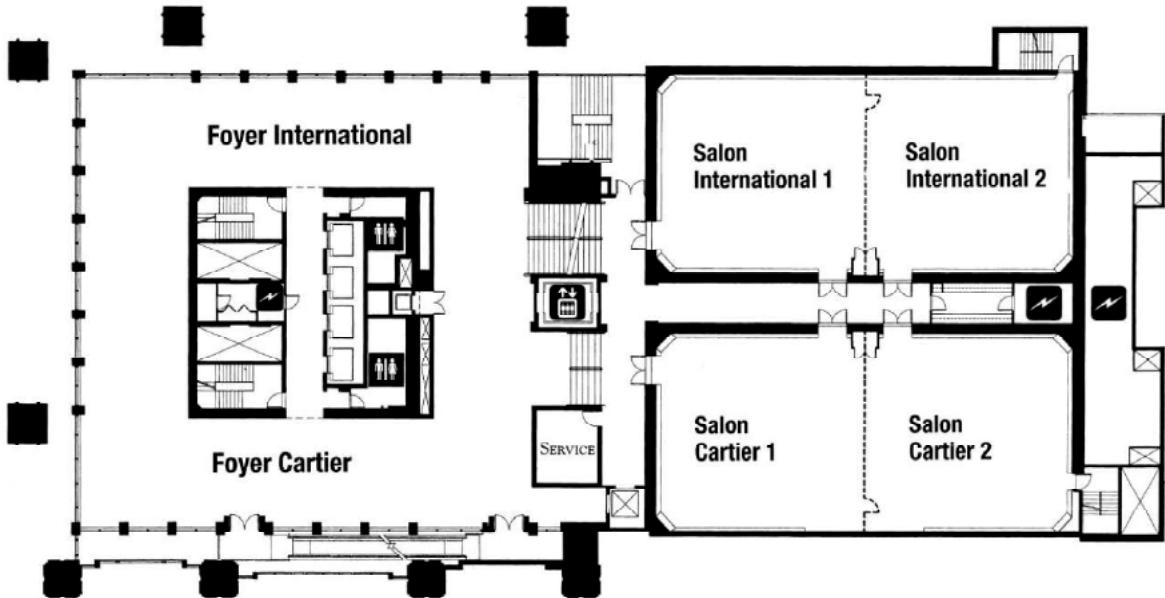
The Centre Mont-Royal is a completely non-smoking venue. Smoking is permitted in designated locations outside of the conference centre.

FLOOR PLANS

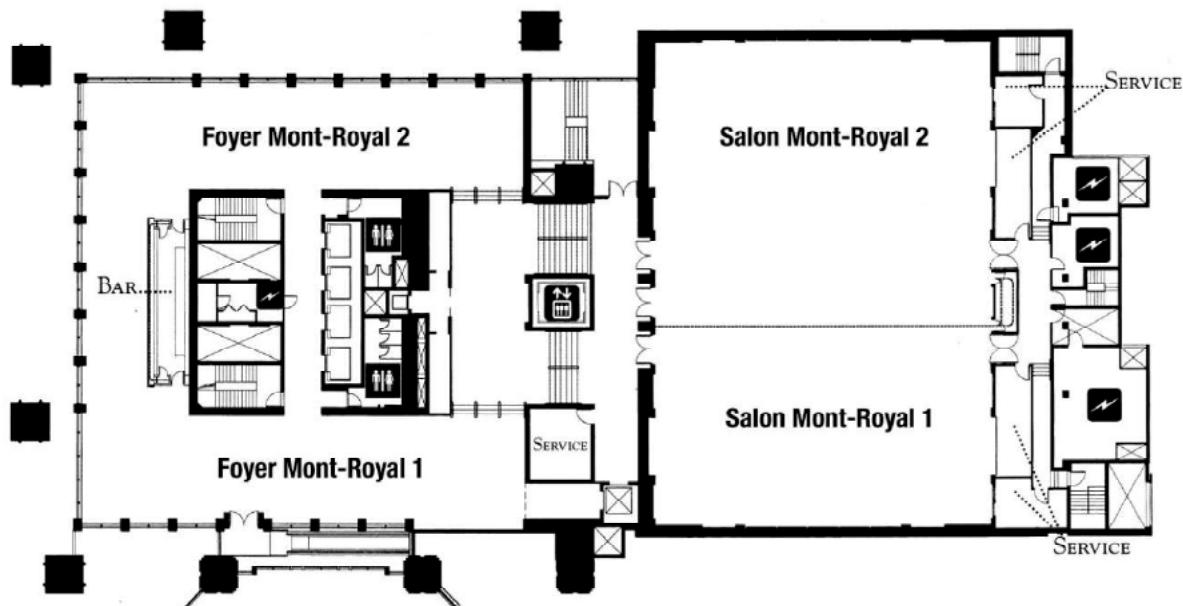
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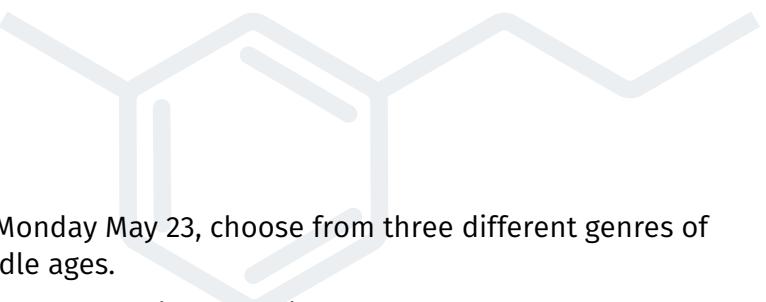
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LEVEL 4



SOCIAL EVENTS



Join us for an evening of music, Montréal style! On Monday May 23, choose from three different genres of music from jazz to Flamenco to music from the middle ages.

Tickets must be purchased in advance with limited number of tickets available.

MONDAY MAY 23, 2022

18:00 – 20:00

Musica del Trecento: Chants italiens due XIVe siècle (Italian songs of the XIVth century)

Church of St John the Evangelist
137 President Kennedy Avenue

Ensemble Scholastica is Quebec's only women's vocal ensemble that specializes in medieval music and the sacred music of New France.

Artists include:

Rebecca Bain, Angele Trudeau, Bronwyn Thies-Thompson

18:00 – 20:00

Flamenco music with Chilto Trio

Le petite marche
5035 rue St-Deni

The flamenco night will be held at the restaurant "La petite marche". Delegates are welcome to stay for dinner if they wish after or during the show.

18:00 – 20:00

Le group EVIDENCE - Jazz

The Upstairs
1254 MacKay

Join us at The Upstairs, Montréal's best jazz club to hear a quartet of well known Montréal jazz musicians.

Musicians include:

Pierre Cartier, Jean Derome, Guillaume Dostaler,
Pierre Tanguay

WEDNESDAY MAY 25, 2022

19:00 – 22:00

Conference Banquet and Networking

Bier Markt

1221 René-Lévesque Blvd W

Join us for an informal, stand up, networking dinner at a local restaurant/pub a short walk from the Centre Mont-Royal.

Tickets must be purchased in advance and can be purchased at the registration desk.

DETAILED PROGRAM

SATURDAY MAY 21, 2022



16:00 – 17:00 ARRIVAL AND REGISTRATION

Centre Mont Royal

17:00 – 18:15 OPENING PLENARY LECTURE

Theatre Symposia
Experimental economics on reward neurons
Wolfram Schultz, Cambridge University

18:15 – 20:00 WELCOME RECEPTION

Foyer 3rd Floor

SUNDAY MAY 22, 2022

08:30 – 09:00 REGISTRATION

09:00 – 10:00 PLENARY SPEAKER

Theatre Symposia
Watching the brain in action: Creating tools for functional analysis of neural circuitry
Lin Tian, University of California, Davis

10:00 – 10:30 REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal

10:30 – 12:20 PARALLEL SESSIONS 1 – 5

Theatre Symposia PARALLEL SESSION 1

Multiple dimensions of dopamine signaling: New technologies and novel insights

Chair: Stephan Lammel, University of California, Berkeley

Diversity of dopamine circuits in reward and aversion

Stephan Lammel¹

¹University of California Berkeley

Imaging striatal dopamine release with a near-infrared fluorescent nanosensor

Markita Landry¹

¹University of California, Berkeley



Imaging intracellular responses to dopamine in vivo at single cell resolution

Tianyi Mao¹

¹Vollum Institute

Investigating the role of VTA-dopaminergic neurons in the social motivation

Benoit Girard

¹University of Geneva

Salon International I

PARALLEL SESSION 2

Neuromelanin-sensitive MRI: A method to investigate the integrity and function of catecholamine systems in the human brain

Chair: Clifford Cassidy, University of Ottawa

Neuromelanin-Sensitive MRI: A novel, non-invasive proxy measure of Dopamine function in psychiatric illness

Clifford Cassidy¹, Fabio Zucca², Ragy Grgis³, Jodi Weinstein⁴, David Sulzer³, Luigi Zecca², Anissa Abi-Dargham⁴, Guillermo Horga³

¹University of Ottawa, ²National Research Council of Italy, ³Columbia University, ⁴Stony Brook University

Structure, synthesis and role of neuromelanins in brain aging and Parkinson's Disease

Luigi Zecca¹, Ioannis Isaias², Luigi Casella³, Guillermo Horga⁴, Clifford Cassidy⁵, Gianni Pezzoli⁶, David Sulzer⁴, Fabio Zucca¹

¹National Research Council of Italy, ²Julius Maximilian University, ³University of Pavia,

⁴Columbia University, ⁵University of Ottawa, ⁶Parkinson Institute

Relationship of striatal presynaptic dopamine to midbrain neuromelanin in a nonhuman primate model of maternal immune activation

Jason Smucny¹, Tyler Lesh¹, Melissa Bauman¹, Abhijit Chaudhari¹, Shuai Chen¹, Ana-Maria Iosif¹, A. Kimberly McAllister¹, Douglas Rowland¹, Martin Styner², Roza Vlasova², Guobao Wang¹, Cameron Carter¹

¹University of California, Davis, ²University of North Carolina, Chapel Hill

MRI Neuromelanin accumulation in patients with treatment-resistant schizophrenia: A cross-sectional pilot study

Fumihiko Ueno¹, Yusuke Iwata¹, Shinichiro Nakajima, Sofia Chavez, Fernando Caravaggio, Guillermo Horga, Clifford Cassidy², Edgardo Torres-Carmona, Jianmeng Song, Vincenzo de Luca, Sakiko Tsugawa, Shiori Honda, Sho Moriguchi, Yoshihiro Noda, Mahavir Agarwa

¹Centre for Addiction and Mental Health, ²University of Ottawa

Salon International II

PARALLEL SESSION 3

The dopamine D2 receptor: From molecules to behavior

Chair: **Kim Neve**, VA Portland Health Care System

Characterization of a novel allelic variant of the human Dopamine D2 receptor

Kim Neve¹, Dayana Rodriguez-Contreras², Brooks Robinson², Alec Condon², Michelle Kielhold², Naeem Asad³, Timothy Dore³, John Williams⁴, Ujwal Shinde²

¹VA Portland Health Care System, ²Oregon Health & Science University, ³New York University Abu Dhabi, ⁴Oregon Health and Science University

Arrestin recruitment to dopamine D2 receptor mediates locomotion but not incentive motivation

Jonathan Javitch¹

¹Columbia University and New York State Psychiatric Institute

Cocaine-Induced Changes in D2 Receptor Signaling

Christopher Ford¹

¹University of Colorado Anschutz Medical Campus

New functional maps of cortical dopamine receptors

Jean Martin Beaulieu¹

¹University of Toronto

Salon Cartier I

PARALLEL SESSION 4

Mechanisms controlling the excitability of midbrain dopaminergic neurons

Chair: **Paul Kramer**, NINDS/NIH

A new hypothesis for slow pacemaking of nigral dopamine neurons

Sofian Ringlet¹

¹Liège University

Selective gain control of dopamine substantia nigra neurons by Cav1.3 channels - a feasible target for activity-dependent neuroprotection in PD

Josef Shin

¹Frankfurt University

Morphological and biophysical determinants of action potential shape and pacemaking in dopaminergic neurons

Jean-Marc Goaillard¹

¹Université d'Aix-Marseille



Mechanisms of GABA-A receptor mediated control of midbrain dopaminergic neuron axons

Paul Kramer

¹NINDS/NIH

Salon Cartier II

PARALLEL SESSION 5

LRRK2 and GTPase activity

Chair: **Hui Zhang**, Thomas Jefferson University

Structural Bases for Nucleotide-dependent Conformational Dynamics in the G-domain of LRRK2

Quyen Hoang¹

¹Indiana University School of Medicine

Neurodegenerative mechanisms of LRRK2 Mutations in Parkinson's Disease: Role of GTPase activity and dimerization

Darren Moore¹

¹Van Andel Institute

LRRK2 and Dopaminergic Neurotransmission

Hui Zhang¹

¹Thomas Jefferson University

Identification of LRRK2 GTP Binding Inhibitors towards PD Therapeutics

Wanli Smith¹

¹Johns Hopkins University School of Medicine

12:20 – 14:15

LUNCH, EXHIBITS AND POSTER SESSION 1

Foyer Mont Royal &
Salon Mont Royal

14:15 – 16:00

PARALLEL SESSIONS 6 – 10

Theatre Symposia

PARALLEL SESSION 6

The intriguing axonal connectivity of dopamine neurons

Chair: **Louis-Eric Trudeau**, Université de Montréal

Exploring the synaptic and non-synaptic connectivity of dopamine neurons

Louis-Eric Trudeau¹

¹Université de Montréal



Striatal mechanisms for fast dopamine signaling

Pascal Kaeser¹

¹Harvard Medical School

Delineating the molecular architecture of dopaminergic release sites by super-resolution microscopy

Ulrik Gether¹

¹University of Copenhagen

Novel roles for dynamic VGLUT expression in dopamine neurons from flies to humans

Zachary Freyberg¹

¹University of Pittsburgh

Salon International I

PARALLEL SESSION 7

Dopamine D2/3 receptors and responses to rewards: More complicated than we thought

Chair: **Marco Leyton**, McGill University

Extra-striatal D2/3 receptor availability in youth at risk for addiction and addiction-related disorders

Marco Leyton¹

¹McGill University

Brain levels of Dopamine D3 receptors are linked with a genetic variation in the endocannabinoid-degrading enzyme FAAH

Laura Best¹, Isabelle Boileau¹

¹University of Toronto

Regionally-specific Dopamine measures predict impulsivity and attentional control in healthy humans

David Zald¹

¹Vanderbilt University

Abnormal Dopamine encoding of reward related information in a mouse model of striatal D2 receptor over-expression

Eleanor Simpson¹

¹Columbia University

Salon International II

PARALLEL SESSION 8

Dopamine in the aging brain: links to cognition, brain integrity, genetics, and lifestyle

Chair: **Nina Karalija**, Umeå University

Within-person dopamine D2-receptor losses in the aging brain: insights from the Cognition, Brain, and Aging (COBRA) study

Nina Karalija¹

¹Umeå University

Dopamine D2-like receptors contribute to neural integrity across different cognitive states

Alireza Salami¹

¹Umeå University & Aging Research Center

Aging-related declines in dopamine receptor availability and their links to cognitive changes

Goran Papenberg¹

¹Aging Research Center, Karolinska Institute and Stockholm University

Age-related differences in dopamine D1-receptors across the adult lifespan: insights from The Dopamine, Age, Connectome, and Cognition (DyNAMiC) study

Jarkko Johansson¹

¹Umeå University

Salon Cartier I

PARALLEL SESSION 9

Dopamine signal complexities in learning and reward: from model-free to model-based and somewhat in between

Chair: **Giovanni Hernandez**, McGill University

Dopamine release reflects value-less prediction errors during sensory-sensory learning

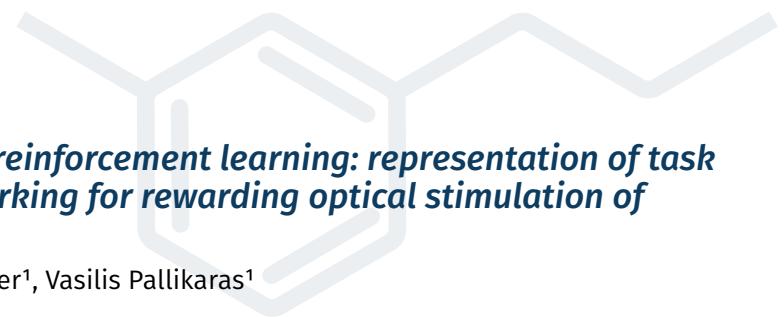
Kauê Costa¹, Geoffrey Schoenbaum¹

¹National Institute on Drug Abuse Intramural Research Program

Characterizing sensory prediction errors in the human midbrain and their role in stimulus-outcome learning

Thorsten Kahnt¹, James D. Howard², Javier A. Suarez², Geoffrey Schoenbaum³

¹National Institute on Drug Abuse Intramural Research Program, ²Northwestern University, ³NIDA



Beyond model-free reinforcement learning: representation of task structure by rats working for rewarding optical stimulation of dopamine neurons

Peter Shizgal¹, Fancis Carter¹, Vasilis Pallikaras¹

¹Concordia University

Model-based predictions for dopamine

Angela Langdon¹, Melissa Sharpe², Geoffrey Schoenbaum³, Yael Niv¹

¹ National Institute on Mental Health Intramural Research Program, ²University of California, Los Angeles, ³NIDA

Salon Cartier II

PARALLEL SESSION 10

SSRI antidepressants potentiate effects of psychostimulants on forebrain circuits and behavioral markers for addiction liability

Chair: **Heinz Steiner**, Chicago Medical School

Fluoxetine and other SSRI antidepressants potentiate addiction-related gene regulation by psychostimulant medications

Heinz Steiner¹

¹RFUMS/Chicago Medical School

Juvenile administration of concomitant methylphenidate and fluoxetine alters behavioral reactivity to reward- and mood-related stimuli and disrupts ventral tegmental area gene expression in adulthood

Carlos Bolanos¹

¹Texas A&M University

Chronic oral methylphenidate effects on functional brain connectivity, behavior and neurochemistry

Panayotis Thanos¹

¹University at Buffalo

Methylphenidate and methylphenidate plus fluoxetine increase cocaine self-administration and trigger reinstatement of cocaine seeking behavior in rats

Micky Marinelli¹

¹University of Texas Austin

16:00 – 16:30

REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal



16:30 – 17:30

Theatre Symposia

PLENARY SPEAKER

Development and diversification of midbrain dopamine neurons

Rajeshawar Awatramani, Northwestern University

MONDAY MAY 23, 2022

09:00 – 10:00

Theatre Symposia

PLENARY SPEAKER

What does dopamine really mean?

Joshua Berke, University of California, San Francisco

10:00 – 10:30

Foyer Mont Royal and
Salon Mont Royal

REFRESHMENT BREAK

10:30 – 12:20

PARALLEL SESSIONS 11 – 15

Theatre Symposia

PARALLEL SESSION 11

Genetics and epigenetics of dopamine signaling and function

Chair: **Jeremy Day**, University of Alabama at Birmingham

A coordinated dopamine-responsive gene expression program regulates neuronal function and cocaine response

Jeremy Day¹

¹University of Alabama at Birmingham

Circadian rhythms in dopaminergic reward circuitry

Colleen McClung¹

¹University of Pittsburgh

Dopaminylation of histone H3 in ventral tegmental area regulates cocaine-seeking

Ian Maze¹

¹Icahn School of Medicine at Mt. Sinai

Activity-dependent epigenetic alterations underlying cocaine self-administration

Erin Calipari¹

¹Vanderbilt University

Salon International I

PARALLEL SESSION 12

New ways of thinking about how to model addiction in laboratory animals

Chair: **Anna Samaha**, Université de Montréal

Behavioral markers of individual variation in motives for nicotine seeking in rats

Veronique Deroche-Gammonet¹

¹Université de Bordeaux

Reward-specificity of neuronal ensembles

Ana Clara Bobadilla¹

¹University of Wyoming

Amphetamine maintenance therapy for treating cocaine addiction: new insights into potential mechanisms

Anne-Noël Samaha¹, Florence Allain¹, Benoît Delignat-Lavaud¹, Marie-Pierre Beaudoin¹, Vincent Jacquemet¹, Terry Robinson², Louis-Eric Trudeau¹

¹Université de Montréal, ²University of Michigan

Central amygdala PKCδ-expressing neurons are critical to inhibition of incubation of methamphetamine craving after social choice-induced voluntary abstinence

Marco Venniro¹, Trinity Russell¹, Leslie Whitaker¹, Christopher Richie¹, Robert Messing², Yavin Shaham¹

¹NIDA, ²University of Texas at Austin

Salon International II

PARALLEL SESSION 13

Forms and functions of glutamate and GABA co-release from midbrain dopamine neurons

Chair: **Tom Hnasko**, University of California, Davis

Storage in different synaptic vesicles enables cotransmitters to encode distinct information

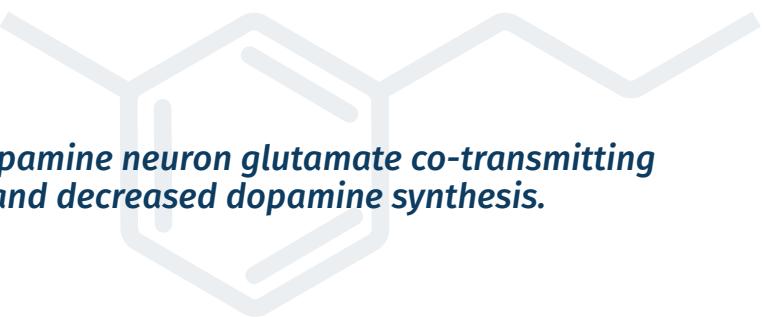
Kätilin Silm¹

¹Cedars-Sinai Medical Center

Molecular mechanisms of GABA co-transmission from midbrain dopamine neurons

Nic Tritsch¹

¹New York University



Modulation of the dopamine neuron glutamate co-transmitting phenotype by aging and decreased dopamine synthesis.

Susana Mingote¹

¹City University of New York

Glutamate and dopamine co-release from mesoaccumbal glutamate projections differentially promote reward and aversion

Shelley Warlow¹

¹University of California San Diego

Salon Cartier I

PARALLEL SESSION 14

DAT's so complex: Insights into dopaminergic pathophysiology and treatments from the study of dopamine transporter-targeted drugs, regulators and mutations

Chair: Ali Salahpour, University of Toronto

Sex and the Circuitry: Dopamine Transporter Regulation In Vivo

Felix Meyer¹

¹Florida Atlantic University Brain Institute

Novel adaptations in dopamine transporters and associated proteins following high-dose, extended-access cocaine self-administration

Sara Jones¹

¹Wake Forest University

Watch flies teaching us mechanisms of neuropsychiatric disorders

Aurelio Galli¹

¹University of Alabama at Birmingham

Dopamine transporter deficiency syndrome; pharmacological chaperones and a new animal model.

Ali Salahpour¹

¹University of Toronto

Salon Cartier II

PARALLEL SESSION 15

Serotonin and dopamine interactions in Parkinson's disease

Chair: **Martin Parent**, Université Laval

The role of glutamate co-transmission by serotonin neurons of the dorsal raphe nucleus in the expression of L-Dopa-induced dyskinesia

Martin Parent¹

¹Université Laval

The 5-HT2A receptor, a unique therapeutic target to alleviate both dopaminergic psychosis and L-DOPA-induced dyskinesia in Parkinson's disease

Philippe Huot¹

¹McGill University

Targeting serotonin neuroplasticity to optimize L-DOPA treatment in Parkinson's disease

Christopher Bishop¹

¹Binghamton University

Differential impact of early or late lesions of the 5-HT system on parkinsonian symptoms

Véronique Sgambato¹

¹CNRS & Université de Lyon

12:20 – 14:15

LUNCH, EXHIBITS AND POSTER SESSION 2

Foyer Mont Royal and
Salon Mont Royal

14:15 – 16:00

PARALLEL SESSIONS 16 – 20

Theatre Symposia

PARALLEL SESSION 16

Heterogeneity in dopamine neuron signaling

Chair: **Stephen Rayport**, Columbia University

Mapping dopamine neuron synaptic connections in the striatum

Nao Chuhma¹, Stephen Rayport¹

¹Columbia University



Distributional reinforcement learning through structured variability in dopamine signals

Naoshige Uchida¹

¹Harvard University

Dopamine diversity within the substantia nigra

Jochen Roeper¹

¹Goethe University Frankfurt

Measuring the 3-dimensional topography of functional DA signaling during instrumental learning and behavior

Mark Howe¹

¹Boston University

Salon International I

PARALLEL SESSION 17

Inhibitory modulation of dopamine neurons of the substantia nigra

Chair: Juan Mena-Segovia, Rutgers University

Dendrite-specific inhibition of dopaminergic neurons

Rebekah Evans¹

¹Georgetown University

Cannabinoid Receptor 1 is required for neurodevelopment of the striatonigral dopamine system

Jill Crittenden¹

¹Massachusetts Institute of Technology

Using a novel PV-Cre rat model to characterize pallidonigral cells and their terminations

Fumino Fujiyama¹

¹Doshisha University

GABAergic inhibition of midbrain dopamine neurons by the pedunculopontine nucleus: Implications for motor behavior

Nadine Gut¹

¹Rutgers University

Salon International II

PARALLEL SESSION 18

Heterogeneous ventral pallidum neurons and their control of dopamine signaling

Chair: **Tom Hnasko**, University of California, Davis

GABAergic and glutamatergic projections from the Ventral Pallidum: two parallel pathways with opponent roles in motivated behaviors

Tom Hnasko¹

¹University of California San Diego

Differential regulation of drug seeking by subpopulations of ventral pallidum neurons

Jasper Heinsbroek¹

¹CU Denver, Anschutz Medical Campus

Ventral pallidum transcriptome adaptations after cocaine self-administration

Mary Kay Lobo¹

¹University of Maryland School of Medicine

Ventral Pallidal circuits in addiction-relevant appetitive and aversive motivation

Stephen Mahler¹

¹University of California, Irvine

Salon Cartier I

PARALLEL SESSION 19

The development and disease of specific subtypes of dopamine neurons

Chair: **Jeroen Pasterkamp**, University Medical Center Utrecht

Molecular mechanisms underlying subtype-specific dopamine neuron migration and substantia nigra development.

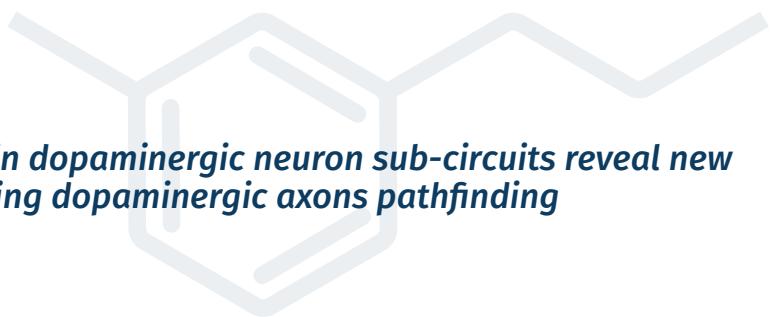
Jeroen Pasterkamp¹

¹University Medical Center Utrecht

The C2H2 type zinc finger transcription factor BCL11A defines a subset of midbrain dopaminergic neurons

Sandra Blaess¹

¹University of Bonn



Axonal translatome in dopaminergic neuron sub-circuits reveal new mechanisms regulating dopaminergic axons pathfinding

Martin Lévesque¹

¹Université Laval

Modeling Parkinson's disease in midbrain-like organoids

Sarah Nickels¹

¹Université du Luxembourg

Salon Cartier II

PARALLEL SESSION 20

Dopamine as a mechanism linking early life adversity to psychopathology

Chair: **Patricia Silveira**, McGill University

Interactions between dopamine-related gene networks and early adversity influence endophenotypes and risk for adult disease

Patricia Silveira¹

¹McGill University

Drugs of abuse alter psychiatric risk in adolescence by disrupting dopamine development

Cecilia Flores¹

¹McGill University

Astrocytic Regulation of Basal Ganglia Dopamine/D2-Dependent Behaviors

Zisis Bimpidis¹

¹Istituto Italiano di Tecnologia

Early life stress primes response to adult stress through ventral tegmental area epigenetic modifications

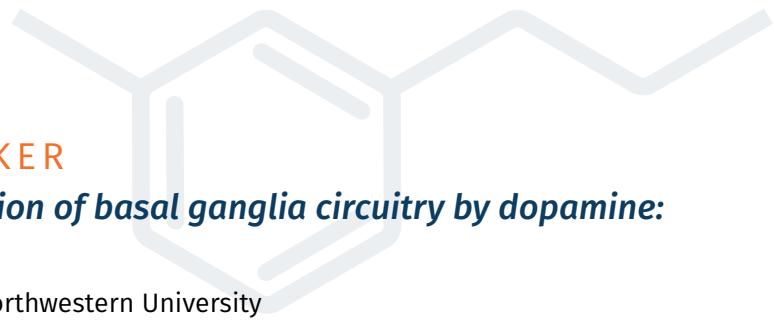
Catherine Peña¹

¹Princeton University

16:00 – 16:30

REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal



16:30 – 17:30	PLENARY SPEAKER
Theatre Symposia	Distributed modulation of basal ganglia circuitry by dopamine: Back to the future
	Dalton James Surmeier , Northwestern University
18:00 – 20:00	MUSICAL SOCIAL EVENTS
Various locations	Pre-registration required

TUESDAY MAY 24, 2022

09:00 – 10:00	PLENARY SPEAKER
Theatre Symposia	Social determinants of inter-individual variability in decision making and vulnerability to nicotine
	Philippe Faure , Université Pierre et Marie Curie, Paris
10:00 – 10:30	REFRESHMENT BREAK
Foyer Mont Royal and Salon Mont Royal	
10:30 – 12:20	PARALLEL SESSIONS 21 – 25
 <i>Theatre Symposia</i>	 PARALLEL SESSION 21
	Recent insights into the importance of functional and anatomical heterogeneity of the dopamine system in behavioral control
	Chair: Ingo Willuhn , Netherlands Institute for Neuroscience
	 Specialized dopamine projection neurons work cooperatively to maximize reward reinforcement
Larry Zweifel ¹	
¹ University of Washington	
	 Nucleus accumbens acetylcholine modulates cue-evoked dopamine to regulate cue-motivated reward-seeking
Val Collins ¹	
¹ University of California San Francisco	
	 Dopamine reports reward prediction errors, but does not update policy, during inference-guided choice
Marta Blanco-Pozo ¹	
¹ University of Oxford	



Striatal Acetylcholine reports distinct update signals during flexible multi-step decision making

Lauren Burgeno¹

¹University of Oxford

Salon International I

PARALLEL SESSION 22

Dissecting the molecular regulation of dopamine release using innovative approaches to dopamine detection

Chair: **James Daniel**, Max Planck Institute of Experimental Medicine

Illuminating dopamine release at the synaptic level using a nanosensor paint

Sofia Elizarova¹, Nils Brose¹, Sebastian Kruss², James Daniel¹

¹Max Planck Institute of Experimental Medicine, ²Georg-August University of Göttingen

Resolving the time-course of dopamine release and receptor occupation with flash photolysis

Joe Lebowitz¹, Alex Condon¹, Brooks Robinson¹, Naeem Asad², Timothy Dore², Lin Tian³, Kim Neve¹, John Williams¹

¹Oregon Health & Science University, ²New York University Abu Dhabi, ³University of California Davis

Complementary Roles of Synaptotagmins 1 and 7 in Somatodendritic Dopamine Release

Takuya Hikima¹, Paul Witkovsky¹, Margaret Rice¹

¹New York University Grossman School of Medicine

An endogenous mechanism of action potential induction in distal dopamine axons

Changliang Liu¹, Xintong Cai¹, Andreas Ritzau-Jost², Paul Kramer³, Yulong Li⁴, Zayd Khaliq³, Stefan Hallermann², Pascal Kaeser¹

¹Harvard Medical School, ²Leipzig University, ³National Institute of Neurological Disorders and Stroke, NIH, ⁴Peking University School of Life Sciences

Salon International II

PARALLEL SESSION 23

Dopamine signalling: from intracellular pathways to striatal function and behaviour

Chair: **Cecile Ladouceur**, University of Pittsburgh

A population-wide g-protein coupled receptor atlas of spiny projection neurons identifies novel modulators of striatal activity

Mattias Rickhag¹

¹Copenhagen University Hospital Amager and Hvidovre

Dynamics of dopamine signal integration in striatal neurons

Pierre Vincent¹, Ségolène Bompierre¹, Cédric Yapo¹, Anu Nair², Elia Mota¹, Jeanette Kotaleski³, Liliana Castro¹

¹Sorbonne Université - CNRS, ²KTH Royal Institute of Technology, ³Karolinska Institutet

Dopaminergic reward and performance prediction error signal are gated during courtship

Andrea Roeser¹, Vikram Gadagkar¹, Pavel Puzerey¹, Brian Kardon¹, Anindita Das¹, Jesse Goldberg¹

¹Columbia University

L-type channel control of DA release is gated by endogenous regulators, can we utilise them as neuroprotective strategies against Parkinson's disease?

Katherine Brimblecombe¹, Stephanie Cragg¹

¹University of Oxford

Altered intrinsic connectivity within striatal subregions is associated with anhedonia as a function of striatal tissue iron levels among youth with depression

Cecile Ladouceur¹, Teague Henry², Amar Ojha¹, Rasim Diler¹

¹University of Pittsburgh, ²University of Virginia

Salon Cartier I

PARALLEL SESSION 24

Sex differences in dopaminergic regulation during development

Chair: **Ashley Kopec**, Albany Medical College

Sex-specific immune mechanisms guide adolescent brain and behavioral development

Ashley Kopec¹

¹Albany Medical College

A mouse model for neurodevelopmental disorders reveals male-specific alterations in repetitive behaviors driven by dopamine dysfunction

Nicola Grissom¹

¹University of Minnesota

The intersection of microbiome and dopamine signaling in social dysfunction in a mouse model of prenatal stress

Caroline Smith¹

¹Duke University



The effects of gonadal hormones on adolescent D2 receptor-expressing medium spiny neuron excitability and behavioral modulation

Kristen Delevich¹

¹Washington State University

Salon Cartier II

PARALLEL SESSION 25

Dopamine beyond reward

Chair: **Mihaela Iordanova**, Concordia University

Win-paired cues alter dopaminergic regulation of the rat gambling task

Catherine Winstanley¹

¹University of British Columbia

The cognitive basis of intracranial self-stimulation of midbrain dopamine neurons

Melissa Sharpe¹

¹University of California, Los Angeles

Dopamine neuron ensembles signal the content of sensory prediction errors

Erin Calipari¹

¹Vanderbilt University

Is there a role for dopamine in aversive prediction error?

Mihaela Iordanova¹

¹Concordia University

12:20 – 14:15

LUNCH, EXHIBITS AND POSTER SESSION 3

Foyer Mont Royal and
Salon Mont Royal

14:15 – 16:00

PARALLEL SESSIONS 26 – 30

Theatre Symposia

PARALLEL SESSION 26

Common genetic and pathological drivers of dopamine dysfunction in neuropsychiatric disorders and neurodegenerative diseases

Chair: **Ulrik Gether**, University of Copenhagen

Rare dopamine transporter variants in neuropsychiatric disease and parkinsonism

Freja Herborg¹

¹University of Copenhagen



Profound effects of synuclein expression on evoked dopamine release in vivo

David Sulzer¹

¹Columbia University

The function of alpha-synuclein

Robert Edwards¹

¹University of California, San Francisco

Dopamine dysfunction in 22q11.2 deletion syndrome: A human model for schizophrenia and Parkinson's disease

Anne Bassett¹

¹University of Toronto

Salon International I

PARALLEL SESSION 27

Disentangling pre- and postsynaptic mechanisms of dopamine in reward processing

Chair: Harald Sitte, Medical University of Vienna

Imbalance between MSN subpopulations of the nucleus accumbens: A main feature of pathological reward processing across psychiatric disorders?

Pierre Trifilieff¹

¹University of Bordeaux

Pharmacological evaluation of synthetic cathinones and their interaction with different components of the dopaminergic synapse.

Marco Niello¹

¹Medical University of Vienna

Differential effects of cocaine self-administration on striatal D2/3 receptor availability, psychostimulant-induced dopamine release and trait behavioral markers of drug abuse

Nathalie Ginovart¹

¹University of Geneva

Determinants of amphetamine-induced dopamine release in first-episode psychosis

Matthäus Willeit¹

¹Medical University of Vienna

Salon International II

PARALLEL SESSION 28

Selected talks from poster sessions

Chair: **Joshua Goldberg**, The Hebrew University of Jerusalem

Leveraging CRISPR/Cas9 gene editing technologies to determine the regulators of dopamine physiology and behavior

Barbara Juarez¹

¹University of Washington- Seattle

Chronic administration of D2/3 agonist ropinirole enhances the ability of win-paired cues to drive development of long-lasting preference for risky choice in a rat gambling task

Leili Mortazavi¹, Tristan Hynes², Catharine Winstanley²

¹Stanford University, ²University of British Columbia

Role of D2 receptor-positive ventral tegmental area dopamine neurons in effort-related motivation for food-seeking

Yoshio Iguchi¹, Shigeki Kato¹, Kazuto Kobayashi¹

¹Fukushima Medical University

Dopaminergic circuit for compulsive eating behavior

Bokyong Kim¹, Ja-Hyun Baik¹

¹Korea University

A mosaic of dopamine dynamics: assessing the role of dopamine neuromodulation in habit learning

Oren Princz-Lebel¹, Miguel Skirzewski¹, Claire Lemieux², Daniel Palmer¹, Marco Prado¹, Vania Prado¹, Penny MacDonald¹, Lisa Saksida¹, Timothy Bussey¹

¹Western University, ²McMaster University

A reaction diffusion model of dopaminergic and cholinergic traveling waves in the striatum

Joshua Goldberg¹, Jeffery Wickens²

¹The Hebrew University of Jerusalem, ²Okinawa Institute of Science and Technology

Salon Cartier II

PARALLEL SESSION 30

Dopamine circuits translating motivation into action

Chair: **Talia Lerner**, Northwestern University

Domain-specific dynamics and functions of striatal dopamine release in motivated behavior

Ingo Willuhn¹

¹University of Amsterdam



Dopamine Signaling in the Dorsomedial Striatum Promotes Compulsive Behavior

Talia Lerner¹

¹Northwestern Feinberg School of Medicine

Strong and opponent contributions of dorsomedial striatal pathways to behavior depends on task demands and task strategy

Scott Bolkan¹

¹Princeton University

Parallel dopamine circuits invigorate and direct learned actions

Benjamin Saunders¹

¹University of Minnesota

16:00 – 16:30

REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal

17:00 – 18:00

PUBLIC OUTREACH AND TOWN HALL

Theatre Symposia

Dopamine: Implications to health and disease

Nora Volkow, NIDA

18:00 – 18:45

ESTABLISHMENT OF DOPAMINE SOCIETY

Theatre Symposia

Join us to learn more about the creation of a society and future meeting locations

WEDNESDAY MAY 25, 2022

09:00 – 10:00

PLENARY SPEAKER

Theatre Symposia

Axonal gating of dopamine transmission in the striatum

Stephanie Cragg, Oxford University

10:00 – 10:30

REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal

10:30 – 12:20

PARALLEL SESSIONS 31 – 34

Theatre Symposia

PARALLEL SESSION 31

Cannabinoid receptors and dopamine release: From reward prediction to enduring consequences

Chair: **Joseph Cheer**, University of Maryland School of Medicine

Endocannabinoid synthesis by dopamine neurons controls cue-directed reinforcement and motivation.

Dan Covey¹

¹University of Maryland School of Medicine

Cannabinoid administration during adolescence: effects on anxiety and behavioural inhibition

Giovanni Hernandez¹, Armaan Fallhi¹, Dominique Nouel¹, Cecilia Flores¹

¹McGill University

Cannabinoid exposure in adolescence dysregulates genes that orchestrate dopamine development and cocaine-motivated behavior

Natalie Zlebnik¹, Santiago Cuesta², Jennifer Wenzel¹, Miguel Lujan¹, Giovanni Hernandez³, Dominique Nouel³, Sami Kummer¹, LanYuan Zhang¹, Cecilia Flores³

¹University of Maryland School of Medicine, ²Not listed, ³McGill University

Perturbation of endocannabinoid signaling and synaptic plasticity onto dopamine neurons following in utero THC

Miriam Melis¹

¹University of Cagliari

Salon International I

PARALLEL SESSION 32

Dopamine regulation of inflammation and other disease processes

Chairs: **Habibeh Khoshbouei**, University of Florida and

Peter Gaskill, Drexel University College of Medicine

Dopaminergic regulation of T-cell-driven inflammation in the gut

Rodrigo Pacheco¹

¹Fundacion Ciencia & Vida

Inflammation effects on motivation and motor function: Role of dopamine

Jennifer Felger¹

¹Emory University School of Medicine



Dopamine levels induced by substance use drive HIV neuropathogenesis by increasing myeloid infection and inflammation

Peter Gaskill¹

¹Drexel University

Functional characterization of the biogenic amine transporters on human macrophages

Habibeh Khoshbouei¹

¹University of Florida

Salon International II

PARALLEL SESSION 33

Multimodal GPCR actions regulate brain dopamine function

Chair: **Amy Newman**, National Institute on Drug Abuse

Designing Bitopic Molecules for Dopamine D2-like Receptors: The Whole is Greater Than the Sum of its Parts

Amy Newman¹

¹National Institute on Drug Abuse

Developmental regulation of prefrontal fast-spiking interneurons by D2 receptor-β-arrestin signaling

Kuei Tseng¹

¹University of Illinois

Discovery and characterization of a functionally selective ghrelin receptor ligand for modulating brain dopamine homeostasis

Joshua Gross¹

¹Duke University

Selective modulation of dopamine-associated behaviors by a biased allosteric modulator of neuropeptide Y receptor 1

Lauren Slosky¹

University of Minnesota

Salon Cartier I

PARALLEL SESSION 34

Unusual suspects in dopamine and dopaminoceptive systems

Chair: **Bruno Giros**, McGill University

Unraveling a novel striatal output opposing the classical D1-direct and D2-indirect bimodal model.

Bruno Giros¹

¹McGill University



Cue-evoked dopamine promotes conditioned responses during learning

Sebastian Haesler¹

¹KU Leuven & Neuroelectronics Research Flanders (NERF)

The Modulation of Excitation and Inhibition by Cocaine and Neuropeptides in the Ventral pallidum is Cell Type Specific

Daniela Neuhofer¹

¹Medical University of South Carolina

Addiction elsewhere than in dopaminergic neurons

Alban de Kerchove d'Exaerde¹

¹Université Libre de Bruxelles

12:20 – 14:15

LUNCH, EXHIBITS AND POSTER SESSION 4

Foyer Mont Royal and
Salon Mont Royal

14:15 – 16:00

PARALLEL SESSIONS 35 – 38

Theatre Symposia

PARALLEL SESSION 35

Selected talks from poster sessions

Chair: **Julie Chouinard**, Okinawa Institute of Science and Technology

Illuminating dopamine dynamics in Huntington's disease

Sarah Yang¹, Markita Landry¹, David Schaffer¹

¹University of California, Berkeley

A novel target for neuroprotection: The small GTPase Rin inhibits LRRK2 to promote autophagy and reduce alpha-synuclein pathology

Anne-Marie Castonguay¹, Julia Obergasteiger¹, Mattia Volta², Martin Lévesque¹

¹Laval University, ²Eurac Research

Early activation of dopaminergic system alters behavior and neural branching of prepubertal mice in a sexually dimorphic manner

Laila Arabe¹, Muiara Moraes¹, Ana Luiza L. Reis¹, Bruna Resende¹, Sofia Avritzer¹, Paula Valverde¹, Bruno Souza¹

¹Universidade Federal de Minas Gerais

Axon-derived netrin-1 regulates midbrain GABAergic migration and substantia nigra development

Divya Darwin Arulseeli¹, Sara Brignani¹, Ewoud Schmidt¹, Ozge Dudukcu¹, Laurens Grossouw¹, Youri Adolfs¹, Juan Moreno-Bravo², Alain Chedotal², Jeroen Pasterkamp¹

¹Utrecht University, ²Sorbonne Université

Dopamine spatiotemporal dynamics comparison between members of the dLight sensors family

Julie Chouinard¹, Akash Pal², Sakiko Takahashi¹, Kiyoto Kurima¹, Nobuyoshi Kitamura¹, Lin Tian², Jeffery Wickens¹

¹Okinawa Institute of Science and Technology, ²University of California Davis

Cardio-Metabolic and Psychiatric Comorbidities: Early Adversity-Mesocorticolimbic Dopamine Gene Network Interactions

Barbara Barth¹, Danusa Mar Arcego¹, Euclides De Mendonça Filho², Randriely Merscher Sobreira de Lima², Irina Pokhvisneva³, Zihan Wang¹, Michael Meaney¹, Patricia Pelufo Silveira¹

¹McGill University, ²Universidade Federal do Rio Grande do Sul, ³Ludmire Centre

Salon International I

PARALLEL SESSION 36

Guys and dolls: Sex effects in dopamine genetics, circuits and drug action

Chair: **Adele Stewart**, Florida Atlantic University

Sexually dimorphic dopamine signaling dictates the penetrance and behavioral trajectory of human dopamine transporter coding variation

Adele Stewart¹

¹Florida Atlantic University

Interactions between synaptic zinc, dopamine, and cocaine as a function of sex

Oscar Solis¹

¹National Institute of Drug Abuse

Sex-specific behavioral strategies to elucidate neurobiology of adaptive decision-making

Jennifer Zachry¹, M.G. Kutlu¹, Erin S Calipari¹

¹Vanderbilt University

Sex and menopause influence dopaminergic neuronal vulnerability in a novel AAV-SNCA mouse model of Parkinson's disease

Roberta Marongiu¹

¹Cornell University

Salon International II

PARALLEL SESSION 37

Ventral striatal dopamine and circuit function in reward-driven behavior

Chair: **Christoph Kellendonk**, Columbia University

Dopamine D2 receptor upregulation in cholinergic interneurons (CINs) of the nucleus accumbens: effects on CIN function and motivated behavior

Eduardo Gallo¹

¹Fordham University

Dopamine D2Rs coordinate cue-evoked changes in striatal acetylcholine levels

Christoph Kellendonk¹

¹Columbia University

Role of nucleus accumbens D1- and D2-MSNs in rewarding and aversive behaviors

Ana Rodrigues¹

¹University of Minho

Mechanism underlying drug abuse vulnerability driven by low levels of striatal dopamine D2 receptors

Veronica Alvarez¹

¹National Institutes of Health

Salon Cartier I

PARALLEL SESSION 38

Role of neuromodulators in synaptic plasticity and memory

Chair: **Maria Concetta Miniaci**, University of Naples Federico II

Role of Locus Coeruleus-Norepinephrine System in the Cerebellum during Fear Conditioning

Maria Miniaci¹, Adrien Stanley², David Sulzer²

¹University of Naples Federico II, ²Columbia University

Dopamine-dependent synaptic plasticity and alpha-synuclein: Implication for motor and memory dysfunctions

Paolo Calabresi¹

¹Gemelli University Hospital

Altered metabolism of heparan sulfate leads to developmental dopaminergic abnormalities responsible for autistic-like behaviours in lysosomal storage disorders

Elvira De Leonibus¹

¹Institute of Neurobiology and Cellular Biology

WEDNESDAY MAY 25, 2022

Regulation of presynaptic mitochondrial transport by serotonin

Sathya Puthanveettil¹, Kerriann Badal¹, Komol Akhmedov¹, Phillip Lamoureux², Xin-An Liu¹, Kyle Miller¹

¹The Scripps Research Institute, ²Michigan State University

16:00 – 16:30

REFRESHMENT BREAK

Foyer Mont Royal and
Salon Mont Royal

16:30 – 17:30

PLENARY SPEAKER

Theatre Symposia

Orexin/hypocretin role in reward and motivation: implications for opioid and other addictions

Stephanie Borgland, University of Calgary

17:30 – 17:45

CLOSING REMARKS

Theatre Symposia

19:00 – 22:00

CONFERENCE DINNER

Bier Markt
1221, boulevard
Rene-Levesque Ouest

Pre-registration required

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Zweifel, Larry S	1-A-13, 1-A-3, 1-J-43

POSTER SESSIONS

ABOUT THE POSTER SESSIONS

The Dopamine Society is pleased to present a wide range of current research through the poster sessions. The posters have been divided over four sessions, with each session on display for a dedicated period of time.

Session 1 Sunday, May 22 12:20 – 14:15

Session 2 Monday, May 23 12:20 – 14:15

Session 3 Tuesday, May 24 12:20 – 14:15

Session 4 Wednesday, May 25 12:20 – 14:15

The poster board numbers work in the following way:

Session – Theme – Board Number (ex. 1-A-1)

POSTER KEYWORDS

The posters were grouped together using common keywords while also trying to ensure more than one poster of a similar keyword were together when possible.

- A** Dopamine, motivation, reward and addiction
- B** Dopamine and attention deficit disorder
- C** Dopamine, cognition and schizophrenia
- D** Dopamine, Parkinson's Disease and neurodegeneration
- E** Development and diversity of the dopamine systems
- F** Dopamine and affective disorders
- G** Imaging Dopamine
- H** Dopamine drug development and pharmacology
- I** Anatomy and physiology of Dopamine systems
- J** Dopamine and brain circuitry
- K** Dopamine receptors, transporters & signalling
- L** Dopamine and neuroplasticity
- M** Dopamine and behavior
- N** Other

POSTER SESSION 1

SUNDAY MAY 22, 2022 ... 12:20 – 14:15

A – DOPAMINE, MOTIVATION, REWARD AND ADDICTION

1-A-1 *Leveraging CRISPR/Cas9 gene editing technologies to determine the regulators of dopamine physiology and behavior*

Barbara Juarez¹

¹University of Washington- Seattle

1-A-2 *The effects of continuous, low dose amphetamine treatment on behavioural features of cocaine addiction in female rats*

Ndeye Aissatou Ndiaye¹, Florence Allain², Anne-Noël Samaha²

¹Samaha Lab, ²Université de Montréal

1-A-3 *Dissociable activity dynamics in projection-specific midbrain dopamine subpopulations contribute to reward association and motivation*

Jordan Elum¹, Scott Ng-Evans¹, Grigory Loginov¹, Larry Zweifel¹

¹University of Washington

1-A-4 *Methamphetamine and fentanyl co-self-administration modifies fentanyl taking and exacerbates dopamine deficits in the nucleus accumbens*

Monica Dawes¹, Katherine Holleran¹, Sara Jones¹

¹Wake Forest School of Medicine

1-A-6 *High saturated fat diet interacts with a D2 receptor expression based polygenic risk score to predict reversal learning*

Gibson Weydmann¹, Euclides José de Mendonça Filho¹, Barbara Barth², Sachin Patel¹, Irina Pokhvisneva¹, Robert Levitan³, Michael Meaney¹, Lisiâne Bizarro⁴, Patricia Silveira¹

¹Douglas Mental Health University Institute, McGill

University, ²McGill University, ³University of Toronto,

⁴Universidade Federal do Rio Grande do Sul (UFRGS)

1-A-7 *Recreational but not therapeutic-like amphetamine exposure in adolescence disrupts mesolimbic dopamine dynamics in adulthood*

Janet Zhao¹, Giovanni Hernandez¹, Del MacGowan¹, Tanya Capolicchio¹, Aoran Song¹, Areesha Moiz¹, Cecilia Flores¹

¹McGill University

1-A-8 *Role of dopamine neurons in inter-individual variability during social labor division task in mice*

Clément Solié¹, Robin Justo¹, Sophie Fayad¹, Fabio Marti¹, Tinaïg Le Borgne¹, Philippe Faure¹

¹CNRS - ESPCI - PSL Research University

POSTER SESSION 1

1-A-9 *Synaptic controllability of dopamine as a driver of adaptive behaviors*

Sasha Burwell¹, Hai Dun Yan¹, Michael Tadross¹

¹Duke University

1-A-10 *Detailed Characterization of the Effects of the Vesicular Monoamine Transporter-2 Inhibitor Tetrabenazine on Effort-based Decision Making and Binge-like Eating: Exertion of Effort vs. Anhedonia*

Gayle Edelstein¹, Alev Ecevitoglu¹, Carla Carratala-Ros¹, Renee Rotolo¹, Rose Presby¹, Reighleigh Fleehrer¹, Jamie Masthay¹, Merce Correa², John Salamone¹

¹University of Connecticut, ²Universitat Jaume I

1-A-11 *Mu opioid receptor expression on dopaminergic axons of nucleus accumbens correlates with voluntary wheel running*

Ikponmwosa Pat-Osagie¹, Chiye Aoki¹

¹New York University

1-A-12 *Neurotransmission at D1 dopamine receptors underlies an aversive component of dopamine neuron self-stimulation*

Milan Valyear¹, Noemie Eustachon¹, Irina Alymova¹, Jonathan Britt¹

¹McGill University

1-A-13 *Diametric changes in ventral striatal dopamine release underlie drug-taking and drug-seeking behaviors*

Lauren Burgeno¹, Ryan Farero², Nicole Murray², Jenny Steger², Marta Soden², Larry Zweifel², Paul Phillips²

¹University of Oxford, ²University of Washington

1-A-14 *Distinct Roles of Cortical Catecholamines in Regulating Motivated Behavior and Striatal Dopamine*

Mayank Kumar¹, Sharonda Harris¹, Jena Delaney¹, Carson Chavez¹, Alex Orr¹, Aditi Kumari¹, Nikhil Urs¹

¹University of Florida

1-A-15 *The cerebellar value signaling to the dopaminergic centers*

Junichi Yoshida¹, Leila Khatami¹, Jorge Vera¹, Maritza Onate¹, Julian Guarque-Chabrer¹, Victoria Lovallo¹, Yoshikazu Isomura², Farzan Nadim³, Kamran Khodakhah¹
¹Albert Einstein College of Medicine, ²Tokyo Medical and Dental University, ³New Jersey Institute of Technology

C - DOPAMINE, COGNITION AND SCHIZOPHRENIA

1-C-16 *Elevation of complement pathway-related transcripts in midbrain in schizophrenia cases who display cytokine-related high inflammation profiles*

Cyndi Shannon Weickert¹, Debora Rothmond², Kate Robinson¹, Tertia Purves-Tyson¹

¹NeuRA, ²Schizophrenia Research Laboratory NeuRA Foundation

1-C-17 *Sex differences in reward-guided decision making in an autism-associated gene variant in mice*

Madison Merfeld¹, Cathy Chen¹, Erin Giglio¹, Nicola Grissom¹

¹University of Minnesota

1-C-18 *Larger amphetamine-induced dopamine release is associated with better clinical outcome in patients with first-episode psychosis*

Nicole Praschak-Rieder¹, Ana Weidenauer¹, Ulrich Sauerzopf¹, Martin Bauer¹, Lucie Batova¹, Irene Graf¹, Verena Pichler¹, Lukas Nics¹, Rupert Lanzenberger¹, Markus Mitterhauser¹, Siegfried Kasper¹, Harald Sitte¹, Wolfgang Wadsak¹, Matthäus Willeit¹

¹Medical University of Vienna

1-C-19 *Functional characterization of prefrontal cortical D2 dopamine receptor in adult mice*

Clémentine Quintana¹, Jivan Khlgatyan², Martin Beaulieu¹

¹University of Toronto, ²University Laval

D – DOPAMINE, PARKINSON'S DISEASE AND NEURODEGENERATION

1-D-20 *Dopamine receptors are not implied in sleep related epilepsy in Tg2576 mice models of Alzheimer disease*

Anna Szabo¹, Lionel Dahan¹

¹Université Paul Sabatier - Toulouse 3

1-D-21 *Neuronal hemoglobin induces loss of dopaminergic neurons in mouse substantia nigra, cognitive deficits and cleavage of endogenous α-synuclein*

Chiara Santulli¹, Bon Carlotta², Elena De Cecco¹, Marta Codrich¹, Joanna Narkiewicz¹, Pietro Parisse³, Fabio Perissinotto³, Claudio Santoro⁴, Francesca Persichetti⁴, Giuseppe Legname¹, Stefano Gustincich², Stefano Espinoza²

¹Scuola Internazionale Superiore di Studi Avanzati,

²Istituto Italiano di Tecnologia, ³ELETTRA Synchotron Light Source, ⁴Department of Health Sciences and Research Center on Autoimmune and Allergic Diseases (CAAD)

1-D-22 *Amphetamine-mediated dopamine release in the ventral striatum is associated with impulsivity in Parkinson's disease*

Alexander Song¹, Daniel Claassen¹

¹Vanderbilt University Medical Center

POSTER SESSION 1

1-D-23 Early synaptic and mitochondrial dysfunction caused by alfa-synuclein accumulation precedes dopaminergic neurodegeneration in a mouse model of Parkinson's Disease

A Sanz-Magro¹, N Granado¹, MG Spillantini², Rosario Moratalla¹

¹Instituto Cajal, CSIC, ²University of Cambridge

1-D-24 D2-like receptor expression in the hippocampus and amygdala informs performance on the stop-signal task in Parkinson's disease

Leah Mann¹, Kaitlyn Hay¹, Alexander Song¹, Steven Errington¹, Paula Trujillo¹, David Zald², Yan Yan¹, Hakmook Kang¹, Gordon Logan³, Daniel Claassen¹

¹Vanderbilt University Medical Center, ²Rutgers University,

³Vanderbilt University

1-D-25 Movement initiation-related functional diversity of dopamine substantia nigra neurons in mice during open-field locomotion

Daniela Schenkel¹, Marie Kuhn¹, Sebastian Betz¹, Pascal Vogel¹, Gaby Schneider¹, Jochen Roeper¹

¹Goethe University Frankfurt

1-D-26 Differential gene expression analysis in midbrain organoid models of Parkinson's Disease using single cell RNA sequencing

Rhalena Thomas¹, Meghna Mathur¹, Vanessa Omana¹, Julien Sirois¹, Thomas Durcan¹, Edward Fon¹

¹McGill University

1-D-27 Effects of age and sex on D2-autoreceptor inhibition in dopamine neurons of the substantia nigra

Eva Troyano-Rodriguez¹, Kylie Handa¹, Tamar Cohen-Davidyan¹, Michael Beckstead¹

¹Oklahoma Medical Research Foundation

1-D-28 Effect of the reversible inhibitor of monoamine oxidase A moclobemide as monotherapy on parkinsonism in the MPTP-lesioned marmoset model of Parkinson's disease

Philippe Huot¹, Stephen Nuara¹, Jim Gourdon¹, Adjia Hamadjida¹

¹McGill University

1-D-29 The role of dopamine in risk-promoting effects of reward-paired cues: A study in Parkinson's disease patients

Mariya Cherkasova¹, Tanya Feng¹, Pratibha Surathi², Shanna C. Yang¹, Martin J. McKeown¹, Sike Appel-Cresswell¹, Catharine Winstanley¹, A. Jon Stoessl¹, Jason JS Barton¹

¹University of British Columbia, ²Harlem Hospital Center

1-D-30 Combining ngn2 programming and dopaminergic patterning for a rapid and efficient generation of hiPSC-derived midbrain neurons

Razan Sheta¹, Maxime Teixeira¹, Walid Idi¹, Marion Pierre¹, Vincent Emond¹, Cornelia Zorca², Benoît Vanderperre³, Thomas Durcan², Edward Fon¹, Frédéric Calon¹, Mohamed Chahine¹, Abid Oueslati¹

¹ULaval, ²McGill University, ³Université du Québec à Montréal

E – DEVELOPMENT AND DIVERSITY OF THE DOPAMINE SYSTEMS

1-E-31 Spatial registration of gene expression in the human locus coeruleus

Lukas Weber¹, Heena Divecha², Sang Ho Kwon², Matt Tran², Madhavi Tippanti², Abby Spangler², Kelsey Montgomery², Thomas Hyde², Stephanie Page², Leonardo Collado-Torres², Kristen Maynard², Stephanie Hicks¹, Keri Martinowich²

¹Johns Hopkins University, ²Lieber Institute for Brain Development

1-E-32 The role of Netrin-1 in the Development of Inhibitory Control in Females

Del MacGowan¹, Claire Guyatt¹, Giovanni Hernandez¹, Cecilia Flores¹

¹McGill University

1-E-33 Development of dopaminergic axon arbors

Laurens Grossouw¹, Oxana Garritsen¹, Mateja Rybicza-Tesulov¹, Youri Adolfs¹, Mark Broekhoven¹, Eljo Van Battum¹, Jeroen Pasterkamp¹

¹Utrecht University

G – IMAGING DOPAMINE

1-G-34 Dopamine spatiotemporal dynamics comparison between members of the dLight sensors family

Julie Chouinard¹, Akash Pal², Sakiko Takahashi¹, Kiyoto Kurima¹, Nobuyoshi Kitamura¹, Lin Tian², Jeffery Wickens¹

¹Okinawa Institute of Science and Technology, ²University of California Davis

1-G-35 [11C]-(+)-PHNO Bolus + Infusion: A novel tool to quantify dopamine release in extra-striatal brain regions

Ulrich Sauerzopf¹, Ana Weidenauer¹, Irena Dajic¹, Irene Graf¹, Martin Bauer¹, Lukas Nics¹, Cecile Philippe¹, Sarah Pfaff¹, Markus Mitterhauser¹, Wolfgang Wadsak¹, Rupert Lanzenberger¹, Nicole Praschak-Rieder¹, Matthäus Willeit¹

¹Medical University of Vienna

POSTER SESSION 1

1-G-36 Applications of functionalized carbon nanotubes for fluorescently imaging extracellular dopamine

Madeline Klinger¹, Abraham Beyene¹, Jackson Travis Del Bonis-O'Donnell¹, Kristen Delevich¹, Linda Wilbrecht², Markita Landry²

¹University of California Berkeley, ²University of California, Berkeley

1-G-37 Dopamine release induced by d-amphetamine is mediated by sex hormones: A [11C]-(+)-PHNO study in healthy female subjects

Ana Weidenauer¹, Ulrich Sauerzopf¹, Carina Bum¹, Martin Bauer¹, Lucie Bartova¹, Cecile Philippe¹, Sarah Pfaff¹, Neydher Berroteran-Infante¹, Verena Pichler¹, Lukas Nics¹, Markus Mitterhauser¹, Wolfgang Wadsak¹, Rupert Lanzenberger¹, Siegfried Kasper¹, Nicole Praschak-Rieder¹, Matthaus Willeit¹

¹Medical University of Vienna

I - ANATOMY AND PHYSIOLOGY OF DOPAMINE SYSTEMS

1-I-38 Dopamine neuron glutamate release sites in the forebrain revealed by proximity

Alyssa Martin¹, Megan Caldwell¹, Paul McKee², Darya Ryndych¹, Philip Fonseca¹, Clare Mitchell¹, Elizabeth Fiore¹, Gary Shteyman¹, Bianca Field³, Pierre Trifilieff⁴, Nao Chuhma¹, Imad Antonios⁵, Susana Mingote¹, Stephen Rayport⁶, Leora Yetnikoff¹

¹City University of New York, ²Duke University, ³University of Texas Southwestern, ⁴University of Bordeaux, ⁵Southern Connecticut State University, ⁶Columbia University

1-I-39 Selective intrinsic bursting in dopamine VTA neurons projecting to medial shell of Nucleus accumbens

Tabea Ziouziou¹, Christopher Knowlton², Carmen Canavier², Jochen Roeper¹

¹Goethe University, Frankfurt, Germany, ²Louisiana State University Health Sciences Center

1-I-40 A role for the netrins in survival of subpopulations of midbrain dopaminergic neurons

Abbas Sadikot¹, Pik-Shan Lo¹, Vladimir Rymar¹, Gabriella Kennedy¹, Timothy Kennedy¹

¹Montréal Neurological Institute, McGill

J - DOPAMINE AND BRAIN CIRCUITRY

1-J-41 Inhibitory control of dopamine neurons

Rebekah Evans¹, Zayd Khaliq¹

¹National Institutes of Health

1-J-42 Striatal glycine inhibits axonal dopamine release in a region-specific manner and partly via regulation of striatal ACh

Rishi Anand¹, Stefania Vietti-Michelina¹, Katherine Brimblecombe¹, Stephanie Cragg¹

¹University of Oxford

1-J-43 Open-loop striato-nigro-striatal circuits from limbic and sensorimotor striatum trigger dopamine release in the associative striatum

Rudolf Faust¹, Louisa Linders², Anastasia Markidi², Lennard Klein³, Jelte de Vries⁴, Nicole Yee¹, Ralph Hamelink¹, Larry Zweifel⁵, Frank Meye², Ingo Willuhn¹

¹University of Amsterdam, ²Utrecht University, ³University of Maastricht, ⁴Free University of Amsterdam, ⁵University of Washington

1-J-44 Functional and molecular heterogeneity of D2R neurons along dorsal ventral axis in the striatum

Emma Puighermanal¹, Laia Castell², Anna Esteve-Codina³, Su Melser⁴, Konstantin Kaganovsky⁵, Charleine Zussy², Jihane Boubaker-Vitre², Marta gut⁶, Stéphanie Rialle², Christoph Kellendonk⁷, Elisenda Sanz¹, Albert Quintana¹, Giovanni Marsicano⁴, Miguel Martin², Marcelo Rubinstein⁸, Jean-Antoine Girault⁹, Jun Ding⁵, Emmanuel Valjent²

¹Autonomous University of Barcelona, ²University of Montpellier, ³Barcelona Institute of Science and Technology, ⁴NeuroCentre Magendie, ⁵Stanford University, ⁶Universitat Pompeu Fabra, ⁷Columbia University, ⁸University of Buenos Aires, ⁹Sorbonne Université

1-J-58 Unexpected inhibition of motor function by dopamine activation of D1/D2 co-expressing striatal neurons

Patricia Bonnavion¹, Christophe Varin¹, Ghazal Fakhfouri², Aurelie De Groote¹, Amandine Cornil¹, Elsa Isingrini², Quentin Rainer², Eleni Tzavara², Erika Vigneault², Sylvie Dumas³, Alban de Kerchove d'Exaerde¹, Bruno Giros²

¹Université Libre de Bruxelles, ²McGill University, ³Oramacell

K - DOPAMINE RECEPTORS, TRANSPORTERS AND SIGNALLING

1-K-45 Novel allosteric modulator attenuates HIV-1 Tat protein-induced inhibition of dopamine transporter and alleviates cognitive and cocaine rewarding effects in HIV-1 Tat transgenic mice

Jun Zhu¹, Chang-Guo Zhan², Jay McLanglin³, Aam Ananthan⁴, Sarah Davis¹, Corinne Augelli-Szafran⁴

¹College of Pharmacy/University of South Carolina,

²College of Pharmacy/University of Kentucky, ³College of Pharmacy/University of Florida, ⁴Southern Research Institute

1-K-46 Decoding dopamine signaling in the striatum

Andrew Yee¹, Christopher Ford¹

¹University of Colorado Anschutz Medical Campus

1-K-47 Control of hippocampal theta rhythm by dopamine: role of D2 receptors in Sst and PV interneurons

Pola Tuduri¹, Emmanuel Valjent¹, Jeanne Ster¹

¹Institut de Génomique Fonctionnelle

1-K-48 Characterizing the binding of bupropion and ibogaine to the dopamine transporter

Erin Williams¹, Matthieu Schapira¹, Ali Salahpour¹

¹University of Toronto

1-K-49 Dynamic regulation of striatal acetylcholine release by D2-dopamine receptors and adaptations in a mouse model of Parkinson's disease

Stefania Vietti-Michelina¹, Emanuel Lopes¹, Katherine Brimblecombe¹, Stephanie Cragg¹

¹University of Oxford

1-K-50 Behaviorally penetrant, anomalous dopamine efflux exposes sex and circuit dependent regulation of dopamine transporters

Adele Stewart¹, Felix Mayer², Raajaram Gowrishankar², Steven Shatkhan², Samantha Stilley², Randy Blakely²

¹University of Iowa, ²Florida Atlantic University Brain Institute

M – DOPAMINE AND BEHAVIOR

1-M-51 Dopaminergic correlates of effort disutility in non-human primates

Mark Burrell¹, Alex Pastor-Bernier², Wolfram Schultz²

¹Not listed, ²University of Cambridge

1-M-52 Dopamine neurons reflect changes in internal subjective value estimates on a moment-to-moment basis

Daniel Hill¹, Robert Hickman¹, Arkadiusz Stasiak¹, Wolfram Schultz¹

¹University of Cambridge

1-M-54 The small GTPase RIT2 modulates dopamine transmission

Mélie Talaron¹, Julia Obergasteiger¹, Anne-Marie Castonguay¹, Marina Ihidoye¹, Christophe Proulx¹, Mattia Volta², Martin Lévesque¹

¹Université Laval, ²Eurac Research

1-M-56 Role of dopamine neurons in ultradian behavioral rhythms

Clément Bourguignon¹, Lei Zhu², Pratap Markam¹, Bruno Giros³, Yulong Li⁴, Kai-Florian Storch³

¹McGill University / Douglas Institute, ²Douglas Institute,

³McGill University, ⁴Peking University

N – OTHER

1-N-57 Cardio-Metabolic and Psychiatric Comorbidities: Early Adversity- Mesocorticolimbic Dopamine Gene Network Interactions

Barbara Barth¹, Danusa Mar Arcego¹, Euclides De Mendonça Filho², Randriely Merscher Sobreira de Lima², Irina Pokhvisneva³, Zihan Wang¹, Michael Meaney¹, Patricia Pelofo Silveira¹

¹McGill University, ²Universidade Federal do Rio Grande do Sul, ³Ludmire Centre

POSTER SESSION 2

MONDAY MAY 23, 2022 ... 12:20 – 14:15

A – DOPAMINE, MOTIVATION, REWARD AND ADDICTION

2-A-1 Chronic administration of D2/3 agonist ropinirole enhances the ability of win-paired cues to drive development of long-lasting preference for risky choice in a rat gambling task

Leili Mortazavi¹, Tristan Hynes², Catharine Winstanley²

¹Stanford University, ²University of British Columbia

2-A-2 Methamphetamine-induced locomotor response varies depending on previous high or low sexual stimulation in male rats

Valeria Violante-Soria¹, Silvia Cruz¹, Gabriela Rodríguez-Manzo¹

¹Cinvestav

2-A-4 Developmental experience of food insecurity affects adult responses to negative outcomes and uncertainty and dopamine neurobiology

Wan Chen Lin¹, Christine Liu¹, Polina Kosillo¹, Lung-Hao Tai¹, Ezequiel Galarce², Helen Bateup³, Stephan Lammel⁴, Linda Wilbrecht¹

¹University of California, Berkeley, ²Optum Labs,

³University of California Berkeley, ⁴University of Minnesota

2-A-5 Midbrain dopamine is sensitive to Pavlovian information loss

Eric Garr¹, Aneesh Bal¹, Yifeng Cheng¹, Laia Castell¹, Sara Brooke¹, Patricia Janak¹

¹Johns Hopkins University

2-A-6 Simultaneous genetic access to the brain's dopamine and serotonin systems reveals neuromodulatory dynamics underlying Pavlovian learning

Daniel Cardozo Pinto¹, Matthew Pomrenze¹, Jayashri Viswanathan¹, Brandon Bentzley¹, Neir Eshel¹, Robert Malenka¹

¹Stanford University

2-A-7 VTA circuitry sustains opposite responses of dopaminergic neurons to drugs of abuse

Tinaig Le Borgne¹, Claire Nguyen¹, Eleonore Vicq¹, Stefania Tolu¹, Alexandre Mourot¹, Fabio Marti¹, Philippe Faure¹

¹CNRS - ESPCI

2-A-8 Self-administration of right vagus nerve stimulation is modulated by satiety

Ching-Tzu Tseng¹, Hailey Welch¹, Catherine Thorn¹

¹The University of Texas at Dallas

POSTER SESSION 2

2-A-9 Mesocorticolimbic function in recreational cocaine users: a multimodal study of altered cue reactivity and cognitive regulation

Stephanie Scala¹, Min Su Kang², Sylvia M.L. Cox¹, Marco Leyton¹

¹McGill University, ²Sunnybrook Research Institute

2-A-10 Dopamine release increases when sensory cues are presented with rewards in risky gambles

Lester Tong¹, Connor Bevington¹, Mariya Cherkasova², Ju-Chieh Kevin Cheng¹, Jordan Hanania¹, A Jon Stoessl¹, Vesna Sossi¹, Luke Clark¹, Catharine Winstanley¹

¹University of British Columbia, ²West Virginia University

2-A-11 Chemogenetic manipulation of the dopaminergic nigrostriatal pathway alters the development and maintenance of cue-induced risky choice in female rats

Brett Hathaway¹, Andrew Li¹, Hannah Brodie¹, Mason Silveira¹, Melanie Tremblay¹, Catharine Winstanley¹

¹University of British Columbia

2-A-12 Adolescent Social Isolation Drives Increased Heroin Vulnerability through Dysregulation of the Dopamine System

Brianna George¹, Sara Jones¹

¹Wake Forest School of Medicine

2-A-13 Serotonin2B receptor antagonists potentiate cocaine-induced dopamine release in the medial prefrontal cortex: implication in the control of cocaine-induced hyperlocomotion

Adeline Cathala¹, Jean Michel Revest¹, Umberto Spampinato¹

¹University of Bordeaux

2-A-14 Striatal dopaminergic gene network interacts with exposure to early adversity influencing food intake and emotional regulation in a developmental trajectory

Kelly Scudine¹, Randriely Merscher Sobreira de Lima², Barbara Barth³, Irina Pokhvitsneva⁴, Danusa Mar Arcego³, Zihan Wang³, Carla Dalmaz², Michael Meaney³, Paula Midori Castelo⁵, Patricia Silveira³

¹Federal University of São Paulo (UNIFESP), ²Universidade federal do rio grande do sul, ³McGill University, ⁴Ludmire centre, ⁵Universidade Federal de São Paulo (UNIFESP)

2-A-15 Value vs prediction error: the role of vta da transients in associative learning

Alexandra Usypchuk¹, Etienne Maes², Megan Lozzi¹, Matthew Gardner¹, Guillem Esber³, Mihaela Iordanova¹

¹Concordia University, ²McGill University, ³Brooklyn College

D – DOPAMINE, PARKINSON'S DISEASE AND NEURODEGENERATION

2-D-16 Oxidation of parkin confers redox homeostasis in adult human brain

Michael Schlossmacher¹, Jacqueline Tokarew¹, Daniel El-Kodsi¹, Nathalie Lengacher¹, Travis Fehr¹, Juan Li¹, Quibo Jiang¹, Angela Ngyuen¹, Gergely Toth², Lawrence Puente¹, Peggy Taylor³, Julianna Tomlinson¹

¹University of Ottawa, ²Gardedam Therapeutics,

³BioLegend Inc

2-D-17 Identification and validation of new therapeutic targets against Parkinson's disease by CRISPR-Cas9 screening at the genome level

Axelle Dovonou¹, Yves De Koninck¹, Emmanouil Metzakopian², Martin Lévesque³

¹CERVO Brain Research Center, Laval University,

²University of Cambridge, ³Université Laval

2-D-18 Altered dopamine and glutamate synaptic transmission in the VPS35 (D620N) knock-in mouse model of Parkinson's disease

Anusha Kamesh¹, Austen Milnerwood¹

¹McGill University

2-D-19 Regulation of L-type Ca²⁺ channels by alpha-synuclein

Se Joon Choi¹, Manu Ben-Johny¹, Mahalakshmi Somayaji¹, Ellen Kanter¹, David Sulzer¹, Eugene Mosharov¹

¹Columbia University

2-D-20 Intrinsic Alterations of Dopaminergic Neuron Physiology and Morphology in the 3xTg-AD Mouse Model

Harris Blankenship¹, Alex Lin¹, Sarah Ocanas¹, Kylie Handa², Michael Beckstead²

¹University of Oklahoma Health Sciences Center/ Oklahoma Medical Research Foundation, ²Oklahoma Medical Research Foundation

2-D-21 Function and neuroprotective potential of Flcn knockout in Parkinsons disease

Julia Obergsteiger¹, Thomas Durcan², Emmanouil Metzakopian³, Martin Levesque⁴

¹University of Cambridge, ²McGill University, ³UK Dementia Research Institute, ⁴Université Laval

2-D-22 Investigating blood brain barrier damage and immune cell entry after Citrobacter rodentium infection in Pink1 knockout mice

Sriparna Mukherjee¹, Vladimir Grouza², Marius Tuznik², Amandine Even¹, Sherilyn Recinto², Marie-José Bourque³, Pedro Rosa-Neto², Jo Anne Stratton², Heidi McBride², Samantha Gruenheid², David Rudko², Louis-Eric Trudeau³

¹University of Montréal, ²McGill University, ³Université de Montréal

POSTER SESSION 2

2-D-23 Characterization of a novel mouse model of Dopamine Transporter Deficiency Syndrome

Emma Russo¹, Ameneh Rezayof², Pieter Beerepoot¹, Amy Ramsey¹, Ali Salahpour¹

¹University of Toronto, ²University of Tehran

2-D-24 Knockdown of PlexinC1 in human induced pluripotent stem cells for efficient cell replacement therapy in Parkinson's disease

Tiago Cardoso¹, Martin Lévesque²

¹Faculty of Medicine, Laval University, ²Université Laval

2-D-25 Effects of aging on substantia nigra dopamine neuron excitability and synaptic transmission in mice

Rebecca Howell¹, Michael Beckstead²

¹University of Oklahoma Health Science Center,

²Oklahoma Medical Research Foundation

2-D-26 Beta amyloid deposition and cognitive decline in Parkinson's disease: a study of the PPMI cohort

Alexander Mihaescu¹, Mikael Valli¹, Carme Uribe¹, Maria Diez-Cirarda¹, Mario Masellis¹, Ariel Graff-Guerrero¹, Antonio Strafella¹

¹University of Toronto

E – DEVELOPMENT AND DIVERSITY OF THE DOPAMINE SYSTEMS

2-E-27 Early activation of dopaminergic system alters behavior and neural branching of prepubertal mice in a sexually dimorphic manner

Laila Arabe¹, Muiara Moraes¹, Ana Luiza L. Reis¹, Bruna Resende¹, Sofia Avritzer¹, Paula Valverde¹, Bruno Souza¹

¹Universidade Federal de Minas Gerais

2-E-28 Regulation of the axonal translatome in dopaminergic circuits during development.

Charles Gora¹, Emmanouil Metzakopian², Martin Lévesque¹

¹CERVO brain research center, ²UK Dementia Research Institute at University of Cambridge

F – DOPAMINE AND AFFECTIVE DISORDERS

2-F-30 Dopaminergic alterations in Alzheimer's disease: A systematic review and meta-analysis

Md Azharuddin¹, Mohammad Adil¹, Pinaki Ghosh², Prem Kapur³, Manju Sharma¹

¹School of Pharmaceutical Education and Research, Jamia Hamdard, ²Poona College of Pharmacy, Bharati Vidyapeeth, ³Hamdard Institute of Medical Sciences and Research, Jamia Hamdard

2-F-31 Role of dopamine D2 receptor in fluoxetine-induced neurogenesis

Gohar Fakhouri¹, Quentin Rainer¹, Stella Manta², Jean-Martin Beaulieu³, Bruno Giros¹

¹McGill University, ²Paul Sabatier University - Toulouse III,

³University of Toronto

2-F-32 Altered intrinsic connectivity within striatal subregions is associated with anhedonia as a function of striatal tissue iron levels among youth with depression

Cecile Ladouceur¹, Teague Henry², Amar Ojha¹, Rasim Diler¹

¹University of Pittsburgh, ²University of Virginia

2-F-33 The impact of bupropion on dopamine transporter imaging in a severely depressed patient - how to avoid misdiagnosis of Parkinson's disease

Lucie Bartova¹, Ivan Milenkovic¹, Konstantinos Papageorgiou¹, Siegfried Kasper¹, Tatjana Traub-Weidinger¹, Dietmar Winkler¹

¹Medical University of Vienna

2-F-34 Individual differences in dopamine reward circuitry impact aggressive profiles

Romain Durand-de Cottoli¹, Long Li¹, Antonio Aubry¹, C. Joseph Burnett¹, Scott Russo¹

¹Icahn School of Medicine at Mount Sinai

H – DOPAMINE DRUG DEVELOPMENT AND PHARMACOLOGY

2-H-35 Quinpirole-induced suppression of dopamine efflux as a model to assess presynaptic D2 autoreceptor antagonists: preliminary studies with the amisulpride, l-tetrahydropalmatine and l-govadine

Soyon Ahn¹, Haiyan Zou¹, Anthony Phillips¹

¹University of British Columbia

2-H-36 Multiplexing dopamine metabolite detection using fast scan cyclic voltammetry

Alexander Zestos¹, Pauline Wonnenberg¹

¹American University

2-H-37 Chirality of novel bivalent dopamine D3 receptor agonists determines bias among G protein subtypes

Hideaki Yano¹, Ana Semeano¹, John Famiglietti¹, Pramisha Adhikari², Kuo-Hao Lee², Alessandro Bonifazi², Francisco Battiti², Amy Newman², Lei Shi²

¹Northeastern University, ²National Institutes of Health

POSTER SESSION 2

I – ANATOMY AND PHYSIOLOGY OF DOPAMINE SYSTEMS

2-I-38 Exploring the implication of neurexins in synapse formation and function by dopamine neurons

Charles Ducrot¹, Gregory De Carvalho², Benoît Delignat-Lavaud¹, Constantin VL Delmas³, Nicolas Giguère¹, Sriparna Mukherjee¹, Marie-Josée Bourque¹, Parent Martin³, Lulu Chen², Louis-Éric Trudeau¹

¹Université de Montréal, ²University of California,

³Université Laval

2-I-39 Projection-selective effect of Ivabradine on pacemaking in midbrain dopamine neurons with defined axonal targets

Johanna Mankel¹, Joseph Shin¹, Jochen Roeper¹

¹Neuroscience Center, Goethe- University

2-I-40 Inhibitory co-transmission from midbrain dopamine neurons relies on presynaptic GABA uptake

Riccardo Melani¹, Nicolas Tritsch¹

¹New York University

J – DOPAMINE AND BRAIN CIRCUITRY

2-J-41 Dorsal raphe nucleus dopaminergic neurons project to the orbitofrontal cortex

Duncan Noble¹, Aida Mohammadkhan¹, Min Qiao¹, Stephanie Borgland¹

¹University of Calgary

2-J-42 Disambiguating local connectivity of non-dopaminergic projection neurons in the Ventral Tegmental Area

Lucie Oriol¹, Thomas Hnasko¹, Sarah Uran¹

¹UCSD

2-J-43 Spatiotemporal relationships between dopamine and acetylcholine dynamics across the striatum during classical conditioning

Safa Bouabid¹, Mai-Anh Vu¹, Mark Howe¹

¹Boston University

2-J-44 Cell-type specific influence of reduced striatal dopamine signalling in vivo

Thomas Christinck¹, Christopher Lafferty¹, Angela Yang¹, Thalia Garvoch-de Montbrun¹, Milan Valyear¹, Jonathan Britt¹

¹McGill University

K – DOPAMINE RECEPTORS, TRANSPORTERS AND SIGNALLING

2-K-45 Exocyst-dependent trafficking of dopamine transporter and its mutants linked with infantile parkinsonism dystonia

Hafiz Muhammad Mazhar Asjad¹, Michael Freissmuth¹, Sonja Sucic¹

¹Medical University of Vienna

2-K-46 Projection-specific hierarchical organisation among midbrain dopamine neurons via dopamine autoreceptor inhibition

Niklas Hammer¹, Sanghun Lee¹, Beatrice Fischer¹, Strahinja Stojanovic¹, Jochen Roeper¹

¹Goethe University Frankfurt

2-K-47 Tetrahydrocannabinol (THC) in adolescence dysregulates the signaling pathway that orchestrates dopamine development

Tanya Capolicchio¹, Giovanni Hernandez¹, Estrada Katerina¹, Emilie Dube¹, Cecilia Flores¹

¹McGill University

2-K-48 Dopamine Drives neuroHIV Neuropathogenesis by Increasing Myeloid Infection and Inflammation

Peter Gaskill¹, Emily Nickoloff-Bybel², Stephanie Matt¹, Rachel Nolan³, Breana Channer¹, Alexis Brantly¹

¹Drexel University College of Medicine, ²University of Pennsylvania, School of Dental Medicine, ³University of Washington School of Medicine

2-K-49 Dopamine-driven increase in IL-1 β in myeloid cells is mediated by differential dopamine receptor expression and exacerbated by HIV

Stephanie Matt¹, Breana Channer¹, Emily Nickoloff-Bybel¹, Samyuktha Manikandan¹, Yash Agarwal¹, Joanna Canagarajah¹, Kaitlyn Runner¹, Rachel Nolan¹, Peter Gaskill¹

¹Drexel University College of Medicine

2-K-50 Next generation RNA sequencing transcriptomic analysis in wild-type and Nur77 (Nr4a1) deficient rats reveals novel signalling components modulated by haloperidol

Simon Majeur¹, Giovanni Hernandez², Catherine Lévesque¹, Claude Rouillard³, Pierre Blanchet¹, Daniel Lévesque¹

¹University of Montréal, ²McGill University, ³Laval University

M – DOPAMINE AND BEHAVIOR

2-M-51 The role of the tail of the striatum in safety learning

Adrien Stanley¹

¹Columbia University

2-M-52 Implication of medial prefrontal cortex and nucleus accumbens dopamine transmission in goal-directed behaviors: a role for dopamine and NMDA receptors heteromers ?

Anna Petitbon¹, Andrea Contini¹, Roman Walle¹, Rodrigue Ortole¹, Javier Correa Vazquez¹, Romain Thebeaud¹, Mélanie Depret¹, Andry Andrianarivelo², Jacques Barik³, Peter Vanhoutte², Pierre Trifilieff¹

¹Université de Bordeaux, ²Sorbonne Université,

³Université Côte d'Azur

2-M-53 Identification of action prediction error, a value-free dopaminergic teaching signal that drives stable associations in the tail of the striatum

Francesca Greenstreet¹, Hernando Martinez Vergara¹, Sthitapranjya Pati¹, Laura Schwarz¹, Matthew Wisdom¹, Yvonne Johansson¹, Marcus Stephenson-Jones¹

¹University College London

2-M-54 Establishing a spatial map of dopamine signals during the learning and updating of distinct instrumental associations

Eleanor Brown¹, Mai-Anh Vu¹, Chinyere Godfrey-Nwachukwu¹, Mark Howe¹

¹Boston University

1-M-55 A mosaic of dopamine dynamics: assessing the role of dopamine neuromodulation in habit learning

Oren Princz-Lebel¹, Miguel Skirzewski¹, Claire Lemieux², Daniel Palmer¹, Marco Prado¹, Vania Prado¹, Penny MacDonald¹, Lisa Saksida¹, Timothy Bussey¹

¹Western University, ²McMaster University

2-M-56 Role of Dopamine Neurons in Familiarity

Rhonda Kolaric¹, Jacquelyn Tomao¹, Sixtine Fleury¹, Andreas Toft Sørensen², Ulrik Gether², Susana Mingote¹

¹City University of New York, ²University of Copenhagen

N - OTHER

2-N-57 Inorganic clay nanocomposite system for improved cholinesterase inhibition and brain pharmacokinetics of donepezil

Anurag Singh¹, Santosh Singh¹

¹Institute of Medical Sciences, Banaras Hindu University

POSTER SESSION 3

TUESDAY MAY 24, 2022 ... 12:20 – 14:15

A – DOPAMINE, MOTIVATION, REWARD AND ADDICTION

3-A-1 Amphetamine-mediated decoupling of midbrain neurons firing from striatal dopamine release

Mahalakshmi Somayaji¹, Eugene Mosharov¹, David Sulzer¹

¹Columbia University

3-A-2 Examining the impact of experience-induced ventral tegmental area KCC2 downregulation on dopamine signaling and reward-related behaviors

Joyce Woo¹, Hannah Kugler¹, Caroline Swain¹, Alexey Ostroumov¹

¹Georgetown University

3-A-3 Effect of modulating dopaminergic and glutamatergic transmission in the nucleus accumbens shell on Pavlovian responding to alcohol cues

Milan Valyear¹, Ghislaine Deyab², Soraya Lahlou², Alexa Brown¹, Nina Caporicci-Dinucci², Iulia Glovaci³, Andrew Chapman¹, Nadia Chaudhri¹

¹Concordia University, ²McGill University, ³University of Oslo

3-A-5 The interpeduncular nucleus acts as a brake to limit the effect of nicotine on dopaminergic neurons in the ventral tegmental area

Joachim Jehl¹, Eléonore Vicq¹, Maria Ciscato¹, Nicolas Guyon¹, Philippe Faure¹, Alexandre Mourot¹

¹ESPCI Paris

3-A-6 Chemogenetic sensitization of midbrain dopamine neurons exacerbates cue-provoked risk taking and amplifies cocaine self-administration

Tristan Hynes¹, Chloe Chernoff², Kelly Hrelja², Maric Tse², Graeme Betts², Melanie Lysenko-Martin², Brittnie Russell², Lucas Calderhead², Andrew Li², Stan Floresco², Catharine Winstanley²

¹iCORD, ²University of British Columbia

3-A-7 Neural bases of Decision making: Reinforcement, Variability and Exploration in Choice behavior

Maxime Come¹, Elise Bousseyrol¹, Steve Didienne¹, Marwen Belkaïd², Tarek Ahmed Yahia¹, Philippe Faure¹

¹ESPCI - Brain Plasticity Lab, ²Istituto Italiano di Tecnologia

3-A-8 Aversive stimulus coding revisited: brain state-dependent responses of reward and anty-reward systems to electrical footshocks

Gabriela Izowit¹, Martyna Marzec¹, Magdalena Walczak¹, Gniewosz Drwiega¹, Zuzanna Stawicka¹, Wojciech Solecki¹, Tomasz Blasiak¹

¹Jagiellonian University

POSTER SESSION 3

3-A-9 Cholinergic dysfunction in the dorsal striatum promotes habit formation and maladaptive eating

Mathieu Favier¹, Helena Janickova², Damian Justo³, Ornella Kljacking², Léonie Runtz¹, Joman Natsheh⁴, Tharick Pascoal¹, Jurgen Germann¹, Daniel Gallino¹, Jun-II Kang¹, Xiang Qi Meng¹, Christina Antinora¹, Sanda Raulic², Jacob Jacobsen⁵, Luc Moquin¹, Erika Vigneault¹, Alain Gratton¹, Marc Caron⁵, Philibert Duriez³, Mark Brandon¹, Pedro Rosa-Neto¹, Malla Chakravarty¹, Mohammad Herzallah⁴, Philip Gorwood³, Marco Prado², Vania Prado², Salah El Mestikawy¹

¹Douglas Mental Health University Institute, McGill University, ²Robarts Research Institute, University of Western Ontario, ³GHU Paris Psychiatrie et Neurosciences (CMME, Hospital Sainte-Anne), INSERM UMR1266,

⁴Palestinian Neuroscience Initiative, Al-Quds University

3-A-10 Modeling treatments for effort-related motivational dysfunction: Assessment of novel atypical dopamine transport inhibitors

Alev Ecevitoglu¹, Nicolette Meka¹, Gayle Edelstein¹, Sonya Srinath¹, Renee Rotolo¹, Carla Carratala-Ros², Rose Presby¹, Jianjing Cao³, Amarchi Okorom³, Amy Newman³, Merce Correa², John Salamone¹

¹University of Connecticut, ²Universitat Jaume I, ³NIDA-Intramural Research Program

3-A-11 Mechanistic Insight into Microbial Regulation of Psychostimulant Abuse

Samuel Mabry¹, Xixi Cao², Shalinkumar Patel¹, Anna Elam¹, David Saleeb¹, Hui Wu², Aurelio Galli¹, Angela Carter¹

¹University of Alabama at Birmingham, ²Oregon Health and Science University

3-A-12 Exploring regulation and function of dopamine D3 receptors in alcohol use disorder. A PET [11C]-(+)-PHNO study

Bernard Le Foll¹, Chidera Chukwueke¹, Christina Nona¹, Matthew McPhee¹, Esmaeil Mansouri¹, Dafna Rubin-Kahana¹, Diana Martinez², Christian Hendershot¹, Isabelle Boileau¹

¹University of Toronto, ²Columbia University

3-A-13 Role of neuromedin S-expressing ventral tegmental area neurons in morphine behavior

Cristina Rivera-Quiles¹, Milagros Alday¹, Olivia Dodson¹, Michelle Mazei-Robison¹

¹Michigan State University

3-A-15 Dopaminergic circuit for compulsive eating behavior

Bokyeong Kim¹, Ja-Hyun Baik¹

¹Korea University

D – DOPAMINE, PARKINSON'S DISEASE AND NEURODEGENERATION

3-D-16 Transient elevated dopamine pretreatment alleviates motor impairments in a 6-OHDA model of Parkinson's disease

Joe Brague¹, Rebecca Seal¹

¹University of Pittsburgh

3-D-17 Expression of the synaptic vesicle glycoprotein 2C (SV2C) mediates dopaminergic neurotoxicity

Meghan Bucher¹, Faith Anderson¹, Joshua Bradner¹, Amy Dunn², Kristen Stout³, Gary Miller¹

¹Columbia University, ²The Jackson Laboratory, ³Emory University

3-D-18 CDK14 regulates alpha-synuclein levels and toxicity in Parkinson's Disease

Jean-Louis Parmasad¹, Konrad Ricke¹, Morgan Stykel², Brodie Buchner-Duby², Eric Lian³, Nathalie Lengacher³, Haley Geertsma¹, Steve Callaghan¹, Julianna Tomlinson³, Michael Schlossmacher³, William Stanford³, Patrik Brundin⁴, Scott Ryan², Maxime Rousseaux¹

¹University of Ottawa, ²University of Guelph, ³Ottawa Hospital Research Institute, ⁴Van Andel Institute

3-D-19 Axonal domain structure and function as a key cell-autonomous characteristic of selective vulnerability in Parkinson's disease: a murine study of primary cultured neurons

Samuel Burke¹, Marie-Josée Bourque¹, Louis-Eric Trudeau¹

¹Université de Montréal

3-D-20 Determining the role of retinoic acid on dopamine neurons selective vulnerability in a mouse model of Parkinson's disease

George Sung¹, Jean-Francois Poulin¹

¹McGill University

3-D-21 Investigating the role of alpha-synuclein in presynaptic microtubule dynamics in dopaminergic neurons

Alessandro Comincini¹, Samanta Mazzetti², Alessandra Calogero³, Julie Parato¹, David Sulzer¹, Graziella Cappelletti³, Francesca Bartolini¹

¹Columbia University, ²fondazione grigioni per morbo di Parkinson, ³Università degli Studi di Milano

3-D-23 A novel target for neuroprotection: The small GTPase Rin inhibits LRRK2 to promote autophagy and reduce alpha-synuclein pathology

Anne-Marie Castonguay¹, Julia Obergasteiger¹, Mattia Volta², Martin Lévesque¹

¹Laval University, ²Eurac Research

POSTER SESSION 3

3-D-24 Age related autophagy impairments in directly reprogrammed dopaminergic neurons in patients with idiopathic Parkinson's disease

Janelle Drouin-Ouellet¹, Marcella Birtele², Shelby Shrigley², Fredrik Nilsson², Maria Pereira², Yogita Sharma², Romina Vuono³, Thomas Stoker³, Johan Jakobsson², Roger Barker³, Karolina Pirics², Malin Parmar²
¹University of Montréal, ²Lund University, ³University of Cambridge

3-D-25 The role of glutamate co-transmission by serotonin neurons of the dorsal raphe nucleus in the expression of L-Dopa-induced dyskinesia

Lydia Saïdi¹, Christophe Proulx¹, Martin Parent²
¹Cervo, ²Université Laval

3-D-26 Cerebroventricular microinjections of MPTP on adult zebrafish induces mitochondrial fragmentation in dopaminergic neurons, sensorimotor impairments and the activation of neural stem cells

Michael Kalyn¹, Marc Ekker¹
¹University of Ottawa

E – DEVELOPMENT AND DIVERSITY OF THE DOPAMINE SYSTEMS

3-E-27 Adolescent nicotine exposure disrupts its anxiogenic properties in adulthood

Lauren Reynolds¹, Sophie Fayad¹, Claire Nguyen¹, Thomas Topilko², Aylin Gulmez¹, Fabio Marti¹, Nicolas Heck³, Nicolas Renier², Alexandre Mourot¹, Philippe Faure¹
¹ESPCI Paris, ²ICM Institut du Cerveau et de la Moelle Epinière, ³Sorbonne Université

3-E-28 Dopamine synaptogenesis in a mouse model of autism spectrum disorder

Sarah Martin¹, Valentine Greffion¹, Jean-Francois Poulin¹
¹McGill University

3-E-29 Netrin-1 regulates GABAergic neuronal migration and Substantia nigra development in the ventral midbrain

Divya D. A. Raj¹, Sara Brignani¹, Ewoud Schmidt¹, Ozge Dudukcu¹, Laurens Grossouw¹, Youri Adolfs¹, Alain Chedotal², Jeroen Pasterkamp¹
¹Utrecht University, ²Sorbonne Université

G – IMAGING DOPAMINE

3-G-30 Estimating absolute dopamine concentrations from biosensor data using Michaelis-Menten kinetics of the dopamine transporter

Aske Ejdrup¹, Jakob Dreyer², Leonie Posselt¹, Ulrik Gether¹
¹University of Copenhagen, ²Lundbeck

3-G-31 Normative values of neuromelanin-sensitive MRI signal in older adults obtained using a standard protocol for acquisition and analysis

Rami Al Haddad¹, Mira Chamoun², Christine Tardif², Serge Gauthier², Synthia Guimond¹, Clifford Cassidy¹

¹University of Ottawa, ²McGill University

3-G-32 Spatiotemporal topography of striatum-wide dopamine release to salient stimuli and during Pavlovian learning

Mai-Anh Vu¹, Michelle Wen², Eleanor Brown¹, Timothy Otchy³, L. Nathan Perkins⁴, David Boas¹, Mark Howe¹

¹Boston University, ²Harvard University, ³Meta, ⁴Apple

3-G-33 Neuromelanin-sensitive MRI correlates with danger and safety cues in human fear conditioning fMRI

Rami Hamati¹, Bianca Chidiac¹, Cecelia Shvetz¹, Clifford Cassidy¹, Lauri Tuominen¹

¹University of Ottawa

3-G-34 Imaging genetically-encoded neurotransmitter sensors and neural activity using head-mountable miniscopes

Waylin Yu¹, Kevin Zitelli¹, Jonathan Zapata¹, Alice Stamatakis¹

¹Inscopix, Inc.

I – ANATOMY AND PHYSIOLOGY OF DOPAMINE SYSTEMS

3-I-37 Aging effects on the density of dopamine-glutamate neurons in the ventral midbrain

Jacquelyn Tomaio¹, Sixtine Fleury¹, Yoon Seok Kim², Lief Ericsson Fenno², Charu Ramakrishnan², Karl Deisseroth², Susana Mingote¹

¹City University of New York, ²Stanford University

3-I-38 Striatal inputs coordinate oscillations in acetylcholine and dopamine

Anne Krok¹, Nicolas Tritsch¹
¹New York University

J – DOPAMINE AND BRAIN CIRCUITRY

3-J-38 Local dopaminergic modulation of the serotonergic raphe

Luca Nava¹, Yann Pelloux², Leonardo Bontempi², Andrea Locarno², Noemi Barsotti³, Massimo Pasqualetti³, Raffaella Tonini²

¹Istituto Italiano di Tecnologia_Università degli Studi di Genova, ²Istituto Italiano di Tecnologia, ³Università degli Studi di Pisa

3-J-39 Distinct physiological and supraphysiological effects of dopaminergic neurons on nucleus accumbens reward processing

Sotiris Masmanidis¹, Charlten Long¹, Kwang Lee¹, Long Yang¹

¹University of California Los Angeles

POSTER SESSION 3

3-J-40 D1 receptor mediated dopaminergic modulation of nucleus incertus to interpeduncular nucleus input - a possible neuronal mechanism for stress-induced novelty preference deficiencies

Agata Szlagi¹, Patryk Sambak¹, Andrew Gundlach², Anna Blasiak¹

¹Jagiellonian University, Krakow, Poland, ²The University of Melbourne, Parkville, Australia

3-J-41 A reaction diffusion model of dopaminergic and cholinergic traveling waves in the striatum

Joshua Goldberg¹, Jeffery Wickens²

¹The Hebrew University of Jerusalem, ²Okinawa Institute of Science and Technology

K – DOPAMINE RECEPTORS, TRANSPORTERS AND SIGNALLING

3-K-42 Characterizing dopamine kinetics and uptake pharmacology in a novel mouse line expressing the A313V dopamine transporter mutation.

Conner Wallace¹, Ali Salahpour², Sara Jones¹

¹Wake Forest School of Medicine, ²University of Toronto

3-K-43 Can kappa opioid receptor antagonism normalize biochemical and behavioral phenotypes in mice expressing the ADHD-associated dopamine transporter variant Val559?

Felix Mayer¹, Paul Gresch¹, Adele Stewart¹, Maximilian Rabil¹, Roxanne Vaughan², Randy Blakely¹

¹Florida Atlantic University Brain Institute, ²University of North Dakota

3-K-44 The impact of melatonin on evoked release of extracellular dopamine in the striatum of CBA/CaJ and C57BL/6J mice

Siham Boumhaouad¹, Nezha Bouhaddou², Stefano Cataldi¹, Eugene Mosharov¹, Avery McGuirt¹, Jihane Balla², Khalid Taghzouti², David Sulzer¹

¹Columbia University, ²University Mohammed 5

3-K-45 Dopamine 2 receptors in the extended amygdala gate action selection in threatening situations

Laia Castell¹, Valentine Le Gall², Laura Cutando-Ruiz³, Chloé Petit⁴, Emma Puighermanal³, Ha-Rang Kim², Daniel Jercog², Pauline Tarot⁴, Adrien Tassou⁴, Anne-Gabrielle Harrus⁴, Marcelo Rubinstein⁵, Patricia Janak¹, Régis Nouvian⁴, Cyril Rivat¹, Cyril Herry², Emmanuel Valjent⁶

¹Johns Hopkins University, ²Univ. Bordeaux, Neurocentre Magendie U1215, F-33077, ³Neurosciences Institute, Autonomous University of Barcelona, ⁴INM, Univ. Montpellier, Inserm, F-34000, ⁵Instituto de Investigaciones en Ingeniería Genética y Biología Molecular, CONICET

⁶IGF, Univ. Montpellier, CNRS, Inserm, F-34094

3-K-46 Systemic isradipine effectively reduces mean firing rates in dopamine neurons in the lateral substantia nigra in awake and freely moving mice

Johannes Boehm¹, Josef Shin¹, Lora Kovacheva¹, Jochen Roeper¹

¹Goethe University Frankfurt a.M.

3-K-47 A Population-Wide G-protein Coupled Receptor Atlas of Spiny Projection Neurons Identifies Novel Modulators of Striatal Activity

Mia Apuschkin¹, David Svane-Petersen¹, Charles Ducrot², Rasmus Rydbirk³, Tomasz Brudek³, Susana Aznar Kleijn³, Louis-Eric Trudeau², Ulrik Gether¹, Mattias Rickhag¹

¹University of Copenhagen, ²Université de Montréal,

³Research Laboratory for Stereology and Neuroscience, Bispebjerg-Frederiksborg Hospital

3-K-48 Synapse-associated protein 102 and post-synaptic density 95 differentially shape dopamine D1 receptor signaling

Bassam Albraidy¹, Bradley Mischuk¹, Chantal Binda¹, Kirk Mulatz², Geneviève Laroche², Patrick Giguère², Jean-Claude Béïque², Mario Tiberi¹

¹Ottawa Hospital Research Institute, ²University of Ottawa

L – DOPAMINE AND NEUROPLASTICITY

3-L-49 Midbrain dopamine neurons trigger hippocampal long term potentiation and contextual learning

Fares Sayegh¹, Camille Lejards¹, Lionel Dahan¹

¹Université Paul Sabatier - Toulouse 3

3-L-50 Dosage-dependent impact of acute serotonin enhancement on transcranial direct current stimulation effects

Lorena Melo¹, Mohsen Mosayebi-Samani¹, Elham Ghanavati¹, Michael Nitsche¹, Min-Fang Kuo¹

¹Leibniz Research Centre for Working Environment and Human Factors

3-L-51 NMDA receptor-related mechanisms of dopaminergic modulation of tDCS-induced neuroplasticity

Elham Ghanavati¹, Mohammad Ali Salehinejad¹, Lorena De Melo¹, Michael Nitsche¹, Min-Fang Kuo¹

¹Leibniz Research Centre for working environment (ifado)

M – DOPAMINE AND BEHAVIOR

3-M-52 Early-life exposure to antibiotics affects mesocorticolimbic circuitry and drug response in adult rats in a sex-dependent manner

Camila González-Arancibia¹, Victoria Collio¹, Marcela Julio-Pieper², Ramón Sotomayor-Zárate¹, Javier Bravo², Francisco Silva-Olivares¹, Paula Montaña-Collao¹, Jonathan Martínez-Pinto¹

¹Universidad de Valparaíso, ²Pontificia Universidad Católica de Valparaíso

3-M-53 Dopamine and norepinephrine signaling differentially mediate the exploration-exploitation tradeoff

Cathy Chen¹, Sijin Chen¹, Becket Ebitz², Nicola Grissom¹
¹University of Minnesota, ²Université de Montréal

3-M-54 Dopamine facilitates reward seeking in part by maintaining arousal

Saleem Nicola¹, Marcin Kazmierczak¹
¹Albert Einstein College of Medicine

3-M-55 Souris-City: a multi-environment for understanding the social basis of inter-individual variability and drug vulnerability in mice.

Sophie Fayad¹, Nicolas Torquet², Lauren Reynolds¹, Fabio Marti³, Stefania Tolu⁴, Claire Nguyen¹, Sarah Mondoloni⁵, Robin Justo¹, Steve Didienne¹, Nicolas Debray³, Louis Brasselet¹, Nicolas Renier⁶, Alexandre Mourot¹, Philippe Faure¹

¹ESPCI - PSL, ²Institute of genetic and molecular and cellular biology, ³Sorbonne Université, ⁴University of Paris, ⁵University of Lausanne, ⁶Brain and Spinal Cord Institute

3-M-56 Mesolimbic dopamine and interpeduncular- tegmentum circuitry dynamics of social novelty processing and adaptive learning

Susanna Molas¹, Timothy Freels¹, Rubing Zhao-Shea¹, Melanie Barbini¹, Andrew Tapper¹

¹University of Massachusetts Chan Medical School

3-M-57 Topographic organization of hippocampal functional connectivity is linked to the dopamine D1 receptor across the adult lifespan

Kristin Nordin¹, Jarkko Johansson¹, Filip Grill¹, Farshard Falahati¹, Robin Pedersen¹, Micael Andersson¹, Anna Rieckmann¹, Alireza Salami¹
¹Umeå University

3-N-58 L-type channel control of DA release is gated by endogenous regulators, can we utilise them as neuroprotective strategies against Parkinson's disease?

Katherine R Brimblecombe¹, Stephanie J Cragg¹
¹University of Oxford

3-N-59 Dopaminergic reward and performance prediction error signal are gated during courtship

Andrea C Roeser¹, Vikram Gadagkar¹, Pavel A Puzerey¹, Brian Kardon¹, Anindita Das¹, Jesse H Goldberg¹
¹Columbia University

POSTER SESSION 4

WEDNESDAY MAY 25, 2022 ... 12:20 – 14:15

A – DOPAMINE, MOTIVATION, REWARD AND ADDICTION

4-A-1 Nucleus accumbens dopamine levels appear to control the ability of sexually satiated male rats to respond to a sexual stimulus

Ana Canseco-Alba¹, Gabriela Rodríguez-Manzo¹
¹Cinvestav

4-A-2 Effects of endogenous orexin and dynorphin corelease on ventral tegmental dopamine neuronal activity

Aida Mohammadkhani¹, Min Qiao¹, Stephanie Borgland¹
¹University of Calgary

4-A-3 Stereotyped behavior in rewarding scenarios in a mouse model of 16p11.2 hemideletion

Erin Giglio¹, Gerardo Rojas¹, Arielle Duerr², Jenelle Collier¹, Aaron Bastin¹, Max Ritchie¹, Mackenzie Lund¹, Ann Hajostek¹, Nicola Grissom¹

¹University of Minnesota, ²University of St. Thomas

4-A-4 Hormonal regulation of dopaminergic signaling and value-based decision-making

Carla Golden¹, Andrew Mah¹, Christine Constantinople¹
¹New York University

4-A-5 Dopamine-induced changes in reward and punishment learning characterize Impulse Control Disorder

Brittany Liebenow¹, Paul Sands¹, Angela Jiang¹, Emily DiMarco¹, Mary Moya-Mendez², Adrian Laxton¹, Stephen Tatter¹, Mustafa Siddiqui¹, Ihtsham Haq³, Kenneth Kishida¹

¹Wake Forest School of Medicine, ²Duke University School of Medicine, ³University of Miami Miller School of Medicine

4-A-6 Dopamine-glutamate receptor heteromerization as a common molecular substrate for substance use disorder and comorbid depression

Marie-Charlotte Allichon¹, Vanesa Ortiz², Paula Pousinha², Sebastian Fernandez², Andry Andrianarivelo¹, Anna Petitbon³, Alexis Bemelmans⁴, Ying Zhu⁵, Jozsef Meszaros⁵, Jonathan Javitch⁵, Pierre Trifilieff³, Jacques Barik², Peter Vanhoutte¹

¹Sorbonne Université, ²Institut de Pharmacologie Moléculaire et Cellulaire, ³University of Bordeaux, ⁴Atomic Energy and Alternative Energies Commission, ⁵Columbia University

POSTER SESSION 4

4-A-7 Respective roles of the distinct populations of medium spiny neurons of the nucleus accumbens in reward processing and feeding behavior.

Petitbon Anna¹, Fois Giulia², Ducrocq Fabien³, Contini Andrea¹, Ortole Rodrigue¹, De Smedt-Peyrusse Véronique⁴, de Kerchove d'Exaerde Alban⁵, Giros Bruno⁶, Chaouloff Francis⁷, Ferreira Guillaume¹, Trifilieff Pierre¹
¹NutriNeuro UMR 1286 INRAE, ²Institut des Maladies Neurodégénératives, UMR 5293, ³UMC Utrecht, ⁴NutriNeuro UMR 1286, ⁵ULB Neuroscience Institute, Université Libre de Bruxelles, ⁶Douglas Hospital, McGill University, ⁷NeuroCentre Magendie INSERM U1215

4-A-8 Expression of the glutamate transporter GLT-1 in dopaminergic axons in the medial shell and age-dependent consequences of its deletion on behavioral sensitization to amphetamine

Kathryn Fischer¹, Ang Sherpa², Chiye Aoki², Sophie Griswold³, Paul Rosenberg⁴
¹Indiana University School of Medicine, ²New York University, ³Brandeis University, ⁴Harvard Medical School and Boston Children's Hospital

4-A-9 Distinct dopamine signals for habit vs. goal-directed behavior in the ventral tegmental area

Robin Magnard¹, Patricia Janak², Youna Vandaele¹
¹Johns Hopkins University; Janak Lab, ²Johns Hopkins University; Johns Hopkins School of Medicine

4-A-11 Role of D2 receptor-positive ventral tegmental area dopamine neurons in effort-related motivation for food-seeking

Yoshio Iguchi¹, Shigeki Kato¹, Kazuto Kobayashi¹
¹Fukushima Medical University

4-A-12 Characterizing value signals in the human midbrain

Jae-Chang Kim¹, Lydia Hellrung¹
¹University of Zurich

4-A-13 Synaptotagmin-3 Modulates Dopamine Release and Selectively Reduces Cocaine Self-Administration

Emily Peck¹, Paige Estave¹, Katherine Holleran¹, Brianna George¹, Sara Jones¹
¹Wake Forest University

4-A-14 Dopamine and addiction theory

Roy Wise¹
¹National Institute on Drug Abuse

C - DOPAMINE, COGNITION AND SCHIZOPHRENIA

4-C-15 Inflammation and sensitization in Schizophrenia: A [11C]-(+)-PHNO PET Study

Carina Bum¹, Ana Weidenauer¹, Matthäus Willeit¹, Ulrich Sauerzopf¹, Martin Bauer¹, Lucie Bartova¹, Alina Kastner¹, Nics Lukas¹, Philippe Cecile¹, Neydherr Berroterán-Infante¹, Veronika Pichler¹, Pablo Rusjan¹, Markus Mitterhauser¹, Marcus Hacker¹, Wolfgang

¹Medical university of Vienna

4-C-16 The novel atypical antipsychotic cariprazine demonstrates dopamine D2 receptor-dependent partial agonist actions on rat mesencephalic dopamine neuronal activity

Sarah Delcourte¹, Charles Ashby Jr², Renaud Rovera¹, Béla Kiss³, Nika Adam⁴, Bence Farkas³, Nasser Haddjeri¹

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²St. John's University, ³Gedeon Richter Plc, ⁴Allergan

4-C-17 The 22q11.2 deletion impairs dopamine function in the striatum: A combined clinical and preclinical study

Céline Devroye¹, Maria Rogdaki², Mariasole Ciampoli², Mattia Veronese², Abhishek Ashok², Robert McCutcheon², Sameer Jauhar², Ilaria Bonoldi², Maria Gudbrandsen², Samuel Chawner², Therese van Amelsvoort², Marianne Van Den Bree², Michael Owen², Federico Tur

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4-C-57 Disynaptic cerebellar modulation of the prefrontal cortex via the ventral tegmental area

Jorge Vera¹, Maritza Onate¹, Christopher Chen², Noelie Cayla¹, Kamran Khodakhah¹

¹Albert Einstein College of Medicine, Harvard University

D - DOPAMINE, PARKINSON'S DISEASE AND NEURODEGENERATION

4-D-18 Illuminating dopamine dynamics in Huntington's disease

Sarah Yang¹, Markita Landry¹, David Schaffer¹

¹University of California, Berkeley

4-D-19 Assessing Vps35 gain v.s. loss of function with respect to LRRK2 activity and DA signaling

Mengfei Bu¹, Jordan Follette², Igor Tartarnikov³, Shannon Wall¹, Dylan Guenther¹, Jesse Fox³, Austen Milnerwood⁴, Mark Moehle¹, Habibeh Khosbhouei¹, Matthew Farrer¹

¹University of Florida, ²Univeristy of Florida, ³University of British Columbia, ⁴McGill University

POSTER SESSION 4

4-D-20 Peripheral administration of the Class-IIa HDAC inhibitor MC1568 partially protects against nigrostriatal degeneration in the striatal 6-OHDA rat model of Parkinson's disease

Martina Mazzocchi¹, Susan Goulding¹, Noelia Morale-Prieto¹, Tara Foley¹, Louise Collins¹, Aideen Sullivan¹, Gerard O'Keeffe¹

¹University College Cork

4-D-21 Phosphodiesterase 2A : functional role in the striatum and potentially new therapeutic target in Parkinson's disease

Ségolène Bompierre¹, Cédric Yapo¹, Liliana Castro¹, Pierre Vincent¹

¹Sorbonne University, Institut de Biologie Paris Seine

4-D-22 Investigating a dysregulated immune response in the gut underlying early PD symptoms in a model of prodromal Parkinson's disease

Sherilyn Junelle Recinto¹, Hicham Bessaiah¹, Alexandra Kazanova¹, Brendan Cordeiro¹, Christina Gavino¹, Sriparna Mukherjee², Jessica Pei¹, Adam MacDonald¹, Michel Desjardins², Louis-Eric Trudeau², Samantha Gruenheid¹, Jo Anne Stratton¹

¹McGill University, ²Université de Montréal

4-D-23 Quantification of cell types in human midbrain organoids using a flow cytometry antibody panel

Rhalena Thomas¹, Julien Sirois², Alex Gestin³, Shuming Li¹, Meghna Mathur¹, Thomas Durcan¹, Edward Fon¹

¹McGill University, ²McGill, ³Université Paris-Saclay

4-D-24 Novel biomarkers for the early identification of Parkinson's disease

Victoria Soto Linan¹, C. Gora¹, M. Peralta², V. Pernet³, N. Dupré⁴, P. Ruzza⁵, F. Raymond⁶, M. Hébert¹, M. Lévesque¹
¹Laval University, CERVO Brain Research Center, ²CERVO Brain Research Center, ³Laval University, CHU de Québec-Université Laval, ⁴CHU de Québec-Université Laval, ⁵Université de Padova CNR, Istituto di Chimica Biomolecolare, ⁶Laval University, INAF

4-D-25 Differential co-expression of tyrosine hydroxylase and vesicular glutamate transporter 2 in human and rodent aging and a rotenone model of Parkinson's disease

Silas Buck¹, Briana De Miranda¹, J. Timothy Greenamyre¹, Kenneth Fish¹, Jill Glausier¹, David Lewis¹, Zachary Freyberg¹

¹University of Pittsburgh

4-D-26 Involvement of autophagy in L-Dopa-induced dyskinesia

Carina Plewnia¹, Michael Feyder¹, Ori Liebermann², Giada Spigolon¹, Alessandro Piccin¹, Lidia Urbina¹, Benjamin Dehay³, Qin Li⁴, Per Nilsson¹, Mikael Altun¹, Emanuela Santini¹, David Sulzer², Erwan Bezard³, Anders Borgkvist¹, Gilberto Fisone¹

¹Karolinska Institutet, ²Columbia University, ³Bordeaux University, ⁴Motac Neuroscience Ltd

4-D-27 Neuroimaging VMAT2 in Parkinson's Disease with Rapid Eye Movement Sleep Behaviour Disorder

Mikael Valli¹, Sang Soo Cho², Carme Uribe¹, Mario Masellis³, Robert Chen⁴, Alexander Mihaescu¹, Antonio Strafella¹

¹CAMH, ²Seoul National University, ³Sunnybrook Health Sciences Centre, ⁴Toronto Western Hospital

4-D-59 Vesicular dopamine storage in isolated synaptic vesicles of cases with Incidental Lewy Body Disease

Christian Pifl¹, Harald Reither¹, Johannes Attems², Luigi Zecca³

¹Medical University of Vienna, ²Newcastle University, National Research Council of Italy³

E – DEVELOPMENT AND DIVERSITY OF THE DOPAMINE SYSTEMS

4-E-28 Molecular profiling of GABAergic neuron subtypes in the developing ventral midbrain

Özge Dündükcü¹, Divya Raj¹, Lieke van de Haar¹, Louisa Linders¹, Nicky van Kronenburg¹, Mark Broekhoven¹, Youri Adolfs¹, Frank Meye¹, R. Jeroen Pasterkamp¹

¹University Medical Center Utrecht, Utrecht University

4-E-29 Regional analysis of dopaminergic neurons reveals subsets with high steady-state activation of the integrated stress response

Elana Lockshin¹, Nicole Calakos¹

¹Duke University

4-E-30 Axon-derived netrin-1 regulates midbrain GABAergic migration and substantia nigra development

Divya Darwin Arulseeli¹, Sara Brignani¹, Ewoud Schmidt¹, Ozge Dudukcu¹, Laurens Grossouw¹, Youri Adolfs¹, Juan Moreno-Bravo², Alain Chedotal², Jeroen Pasterkamp¹

¹Utrecht University, ²Sorbonne Université

POSTER SESSION 4

H – DOPAMINE DRUG DEVELOPMENT AND PHARMACOLOGY

4-H-31 Novel dual-target mu opioid (MOR) and dopamine D3 receptors (D3R) ligands as potential non-addictive pharmacotherapeutics for pain management

Alessandro Bonifazi¹, Francisco Battiti¹, Elizabeth Saab¹, Julie Sanchez², Saheem Zaidi³, Vsevolod Katritch³, Meritxell Canals², Robert Lane², Amy Newman¹

¹National Institutes of Health, ²University of Nottingham,

³University of Southern California

4-H-32 Discovery and characterization of a functionally selective ghrelin receptor ligand for modulating brain dopamine homeostasis

Joshua Gross¹, David Kim², Yang Zhou¹, Dan Jansen², William Wetsel¹, Marc Ferrer², Krisztian Toth³, Juan Marugan², Marc Caron¹, Lawrence Barak¹

¹Duke University, ²National Center for Advancing Translational Sciences (NCATS), ³Campbell University

4-H-33 D-neuron (trace amine neuron, type 1), TAAR1 ligand neuron: A clue for medicinal chemistry

Keiko Ikemoto¹

¹Iwaki City Medical Center

4-H-34 The novel atypical antipsychotic cariprazine demonstrates dopamine D2 receptor-dependent partial agonist actions on rat mesencephalic dopamine neuronal activity

Sarah Delcourte¹, Charles Ashby Jr², Renaud Rovera¹, Béla Kiss³, Nika Adham⁴, Bence Farkas³, Nasser Haddjeri¹

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²St. John's University, ³Gedeon Richter Plc, ⁴Allergan

I – ANATOMY AND PHYSIOLOGY OF DOPAMINE SYSTEMS

4-I-35 Phase resetting in mouse substantia nigra pars compacta dopamine neurons

Matthew Higgs¹, Michael Beckstead¹

¹Oklahoma Medical Research Foundation

4-I-36 Dopamine neuron axons in the corpus callosum: potential role in experience-dependent myelination

Megan Caldwell¹, Lauren Reynolds², Elizabeth Fiore¹, Alyssa Martin¹, Darya Ryndych¹, Dan McCloskey¹, Stephen Rayport³, Susana Mingote¹, Cecilia Flores⁴, Leora Yetnikoff¹

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³Columbia University, ⁴McGill University

J – DOPAMINE AND BRAIN CIRCUITRY

4-J-37 Awry acetylcholine-dopamine interaction within the nucleus accumbens of mice leads to impaired associative learning

Miguel Skirzewski¹, Oren Princz-Lebel¹, Alycia Crooks¹, Liliana German-Castelan¹, Gerard Kim¹, Sophie Henke Tarnow¹, Amy Reichelt¹, Miao Jing², Fangmiao Sun³, Yajun Zhang³, Yulong Li³, Lisa Saksida¹, Vania Prado¹, Marco Prado¹, Timothy Bussey¹

¹Western University, ²Pekin University, ³Peking University

4-J-39 Neural dopamine dynamics underly the individuation of alcohol drinking behavior

Sarah Montgomery¹, Emily Teichman¹, Arthur Godino¹, Erin Calipari², Eric Nestler¹, Carole Morel¹, Ming-Hu Han¹

¹Icahn School of Medicine at Mount Sinai, ²Vanderbilt University

K – DOPAMINE RECEPTORS, TRANSPORTERS AND SIGNALLING

4-K-41 Pharmacological characterization of alpha-pyrrolidinovalerophenone enantiomers

Marco Niello¹, Jakob Schwazer¹, Julian Maier¹, Ronan O'Shea², Alexander Hoffman², Carl Lupica², Kathrin Jäntschi¹, Michael Baumann², Harald Sitte¹

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4-K-42 D1-medium spiny neurons exhibit a temporally regulated differential dopamine sensitivity

Ainoa Konomi Pilkati¹, Thorvald Andreassen¹, Andreas Sørensen¹, Kenneth Madsen¹, Ulrik Gether¹

¹Copenhagen University

4-K-43 Systematic characterization of human dopamine transporter missense mutations from a Danish cohort of psychiatric patients

Anna Campana¹, Carmen Klein Herenbrink¹, Jonatan Fullerton Støier¹, Thomas Werje², Freja Herborg¹, Ulrik Gether¹

¹University of Copenhagen, ²Copenhagen University Hospital

4-K-45 Dynamics of dopamine signal integration in striatal neurons

Pierre Vincent¹, Ségolène Bompierre¹, Cédric Yapo¹, Anu Nair², Elia Mota¹, Jeanette Kotasinski³, Liliana Castro¹

¹Sorbonne Université - CNRS, ²KTH Royal Institute of Technology, ³Karolinska Institutet

POSTER SESSION 4

M - DOPAMINE AND BEHAVIOR

4-M-46 D1 receptors in the dorsomedial striatum regulate motor coordination

Stefano Cataldi¹, Clay Lacefield¹, Gautam Kumar¹, Shashaank N¹, David Sulzer¹

¹Columbia University

4-M-47 Functional characterization of genetically defined subtypes of nigrostriatal dopamine neurons

Maite Azcorra¹, Rajeshwar Awatramani¹, Daniel Dombeck¹

¹Northwestern University

4-M-48 Stress influences on the explore-exploit tradeoff in reward-guided decision making

Dana Mueller¹, Cathy Chen¹, Anila Bano¹, Elinor Wood¹, Nicola Grissom¹

¹University of Minnesota

4-M-49 The Vulnerability to Social Stress in Adolescence is Sexually Dimorphic

Samuel Richer¹, Andrea Pantoja Urbán¹, Giovanni Hernandez¹, Amelie Mittermaier¹, Michel Giroux¹, Cecilia Flores¹

¹McGill

4-M-50 Dopamine reports reward prediction errors, but does not update policy, during inference-guided choice

Marta Blanco-Pozo¹, Thomas Akam¹, Mark Walton¹

¹University of Oxford

4-M-51 Nigrostriatal dopamine pathway regulates auditory discrimination behavior

Allen Chen¹, Jeffrey Malgady¹, Lu Chen¹, Kaiyo Shi¹, Eileen Cheng¹, Joshua Plotkin¹, Shaoyu Ge¹, Qiaojie Xiong¹

¹Stony Brook University

4-M-55 Mice with humanized Foxp2, a gene involved in language evolution, show alterations in striatal dopamine-dependent functions, striatal Foxp2 expression and in their reactivity to morphine

Christiane Schreiweis¹, Theano Irinopoulou², Beate Vieth³, Lilia Laddada⁴, Franck Oury⁵, Eric Burguiere¹, Wolfgang Enard³, Matthias Groszer²

¹Institut du Cerveau et de la Moelle Epiniere, ²Sorbonne Université, ³Ludwig Maximilians University, ⁴Clermont-Auvergne University, ⁵Université Paris Descartes

4-M-56 A molecular map of the learning striatum

Eliana Lousada¹, Aleksandar Janjic², Eric Burguière¹, Wolfgang Enard², Christiane Schreiweis¹

¹Institut du Cerveau et de la Moelle Epiniere, ²Ludwig-Maximilians University

4-M-58 Dopamine mediated effect of amphetamine on food and water intake

Miriam E Bocarsly¹, Veronica A Alvarez¹

¹NIH

N - OTHER

4-N-52 Role of prefrontal cortex and striatum *dcc* gene network in the development of cognitive control throughout childhood and adolescence

Jose Restrepo¹, Sachin Patel¹, Zihan Wang¹, Michael Meaney¹, Patricia Silveira¹, Cecilia Flores¹

¹McGill University

4-N-53 Sex-modulated norepinephrine function in mediating exploration-exploitation tradeoff

Cathy Chen¹, Becket Ebitz¹, Sylvia Bindas², Evan Knep¹, Nicola Grissom¹

¹University of Minnesota, ²Oregon Health & Science University

4-N-54 Novel computational models for the analysis of dopamine release kinetics in vivo from fast-scan cyclic voltammetry

Shashaank N¹, Mahalakshmi Somayaji¹, Mattia Miotto², Eugene Mosharov¹, David Knowles¹, Mark Wightman³, Giancarlo Ruocco², David Sulzer¹

¹Columbia University, ²Sapienza University, ³University of North Carolina at Chapel Hill

4-N-60 Dopamine D1 Receptor Organization Reflect Functional Brain Architecture

Robin Pedersen¹, Jarkko Johansson¹, Alireza Salami¹

¹Umeå University

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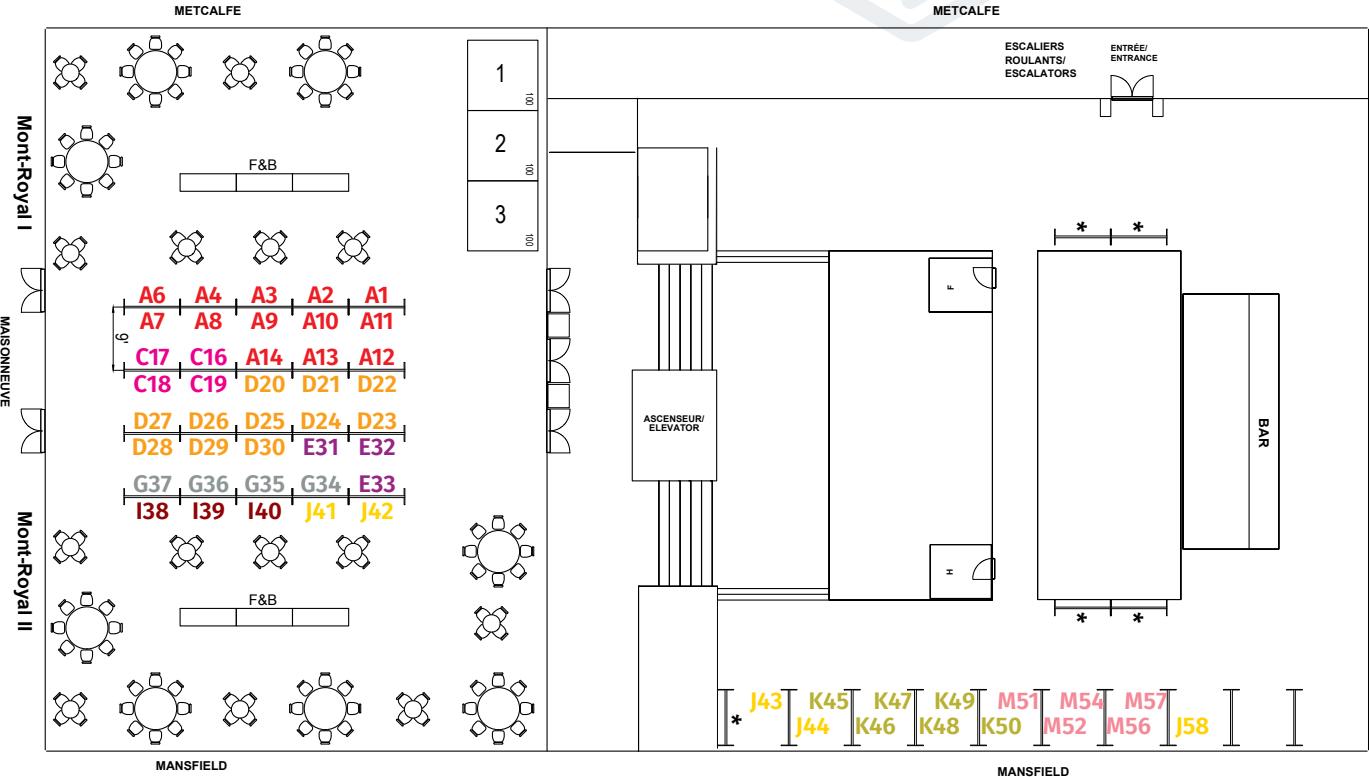
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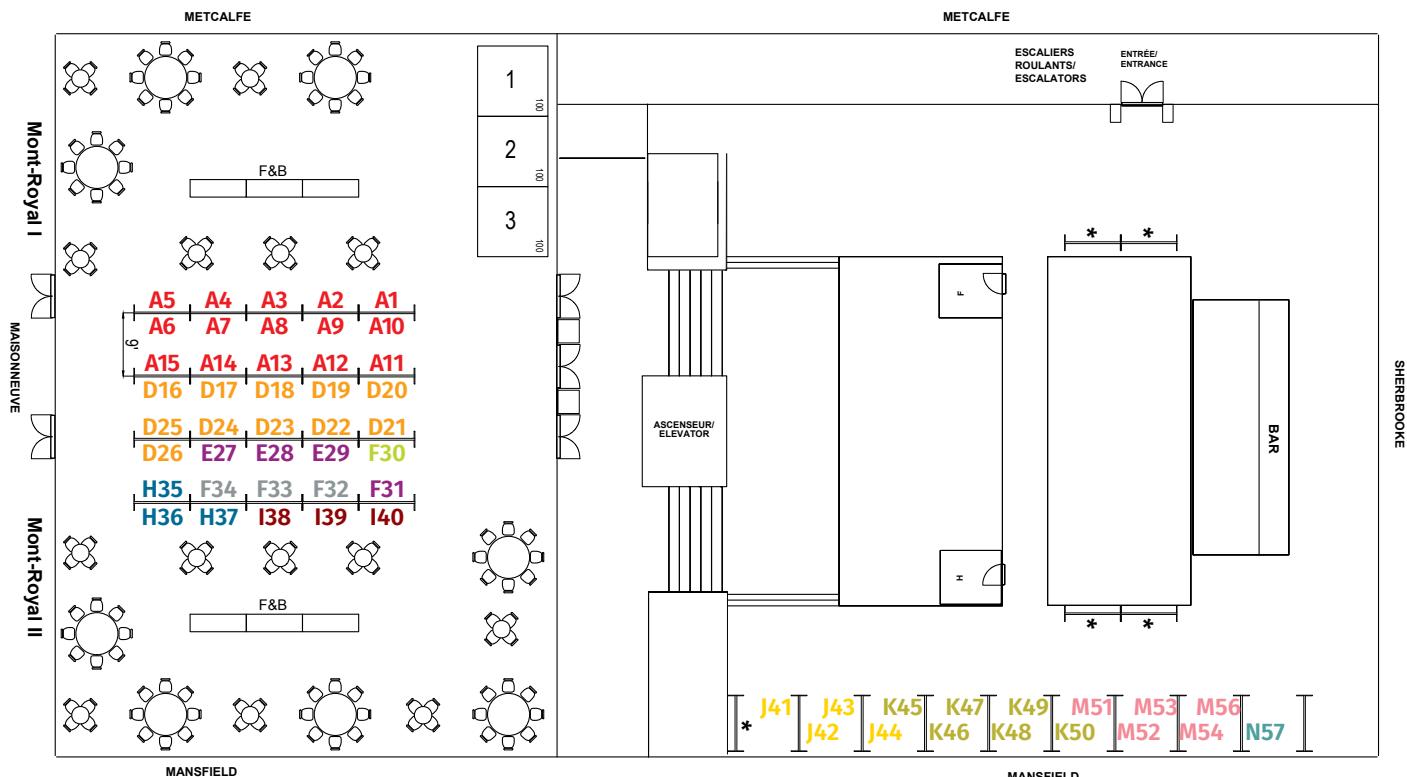
POSTER FLOOR PLANS

POSTER SESSION 1

A	Dopamine, motivation, reward and addiction	H	Dopamine drug development and pharmacology
B	Dopamine and attention deficit disorder	I	Anatomy & physiology of Dopamine systems
C	Dopamine, cognition and schizophrenia	J	Dopamine and brain circuitry
D	Dopamine, Parkinson's Disease and neurodegeneration	K	Dopamine receptors, transporters & signalling
E	Development and diversity of the dopamine systems	L	Dopamine and neuroplasticity
F	Dopamine and affective disorders	M	Dopamine and behavior
G	Imaging Dopamine	N	Other

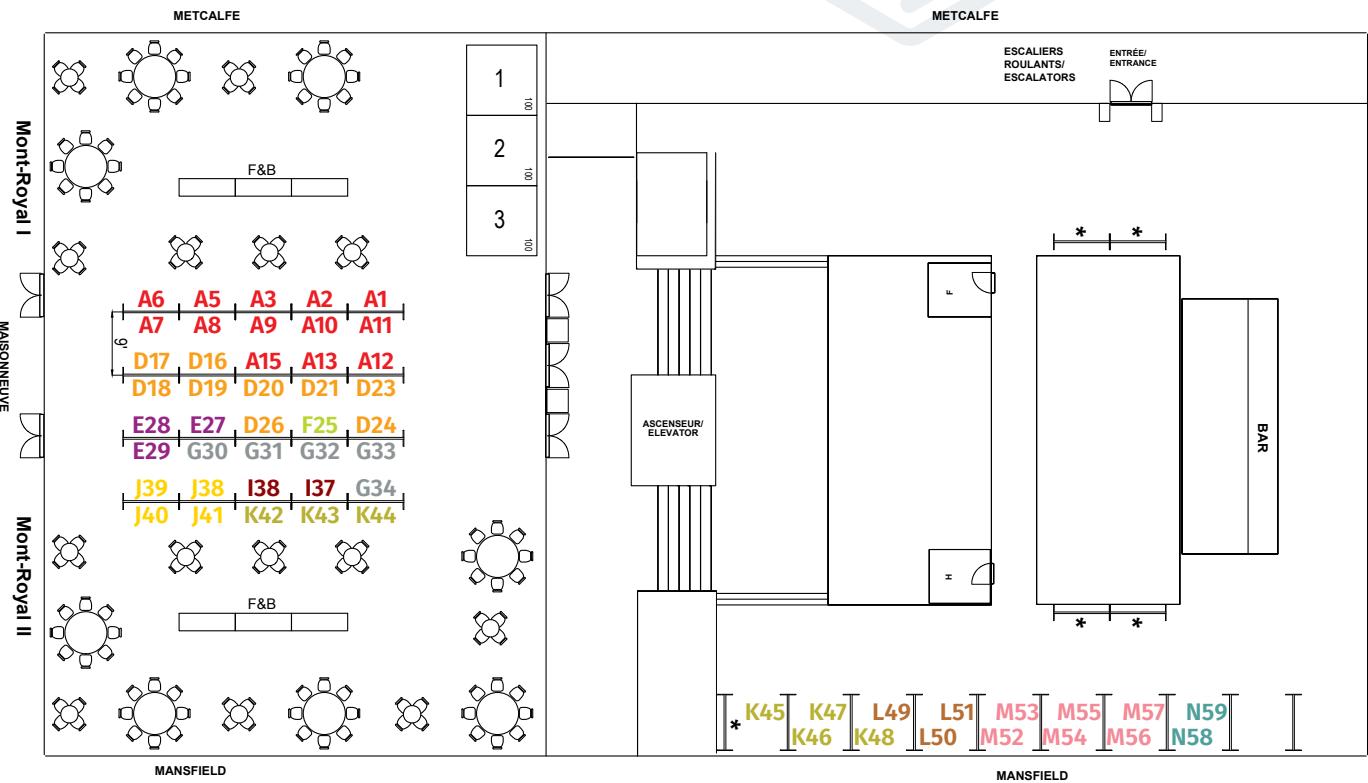


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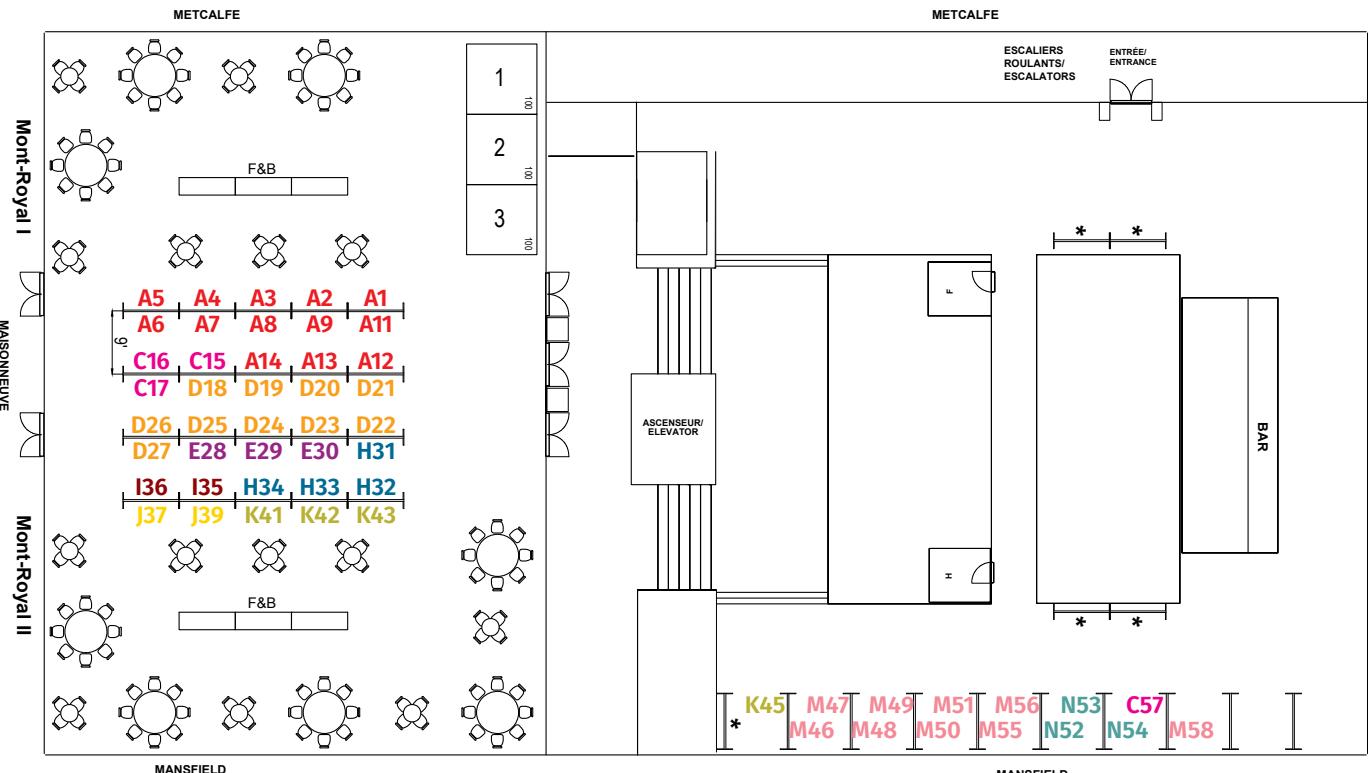


A	Dopamine, motivation, reward and addiction
B	Dopamine and attention deficit disorder
C	Dopamine, cognition and schizophrenia
D	Dopamine, Parkinson's Disease and neurodegeneration
E	Development and diversity of the dopamine systems
F	Dopamine and affective disorders
G	Imaging Dopamine
H	Dopamine drug development and pharmacology
I	Anatomy & physiology of Dopamine systems
J	Dopamine and brain circuitry
K	Dopamine receptors, transporters & signalling
L	Dopamine and neuroplasticity
M	Dopamine and behavior
N	Other

POSTER SESSION 3



POSTER SESSION 4



NOTES



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