IBAGS 2017 Merida TIMETABLE

<table>
<tr><th>Saturday
March 25
9:00-17:30 hs</th><th colspan="2">Sunday
March 26</th><th>Monday
March 27</th><th>Tuesday
March 28</th><th>Wednesday
March 29</th><th>Thursday
March 30</th><th>Friday
March 31</th></tr>
<tr><td rowspan="8">IBAGS 2017
&
MDS

Clinical Workshop

specially designed for clinical practitioners and residents (see sessions)

JA Obeso
J Bargas</td><td colspan="2">Article publishing tutorial by P. Bolam
9:00-10:00 hs</td><td>Breakfast
7:00 - 8:30</td><td>Breakfast
7:00 - 8:30</td><td>Breakfast
7:00 - 8:30</td><td>Breakfast
7:00 - 8:30</td><td>Breakfast
7:00 - 8:30</td></tr>
<tr><td rowspan="2">Arrival
Registration

Free time: explore Merida’s downtown Avenues nearby</td><td rowspan="2">11:00 hs

Basic

Science

Tutorial

(Mercuri)</td><td>Session 1
8:30-10:30 hs</td><td>Session 4
8:30-10:30 hs</td><td>Session 5
8:30-10:30 hs</td><td>Session 8
8:30-10:30 hs</td><td rowspan="2">Departure</td></tr>
<tr><td>Coffe break
10:30 – 11:00 hs</td><td rowspan="4">Optional excursions to:

1) Chichen Itza
2) Uxmal or
3)Dzibilchaltun & beach (Progreso)</td><td>Coffe break
10:30 – 11:00 hs</td><td>Coffe break
10:30 – 11:00 hs</td></tr>
<tr><td colspan="2">Council meet
16:00-18:00 hs</td><td>Session 2
11:00 -13:00 hs</td><td>Session 6
11:00 - 13:00 hs</td><td>Session 9
11:00 -13:00 hs</td><td rowspan="4"></td></tr>
<tr><td colspan="2">Paul Bolam
(founder lecture)
18:15-19:30 hs</td><td>Free time
13:00 - 15:00 hs</td><td>Free time
13:00 -15:00 hs</td><td>Free time
13:00 -15:00 hs</td></tr>
<tr><td colspan="2" rowspan="3">Welcoming reception
(beer, wine, tacos)
20:00 hs</td><td>Poster session
(wine & cheese)
15: 00 -18:00 hs</td><td>Poster session
(wine & cheese)
15: 00 -18:00 hs</td><td>Session 10
15:00 -17:00 hs</td></tr>
<tr><td>Session 3
18:00 -20:00 hs</td><td>Basal Ganglia model
R. Costa &
A. Kreltzer
Mod: D.J. Surmeier
18:00 -20:00 hs</td><td>Session 7
18:00 -20:00 hs</td><td rowspan="2">Good bye Party
at Chenkú Hacienda
19:00 hs</td></tr>
<tr><td>Enjoy Merida</td><td>Enjoy Merida</td><td>Enjoy Merida</td></tr>
</table>

Clinical Workshop: Merida Room
Oral Sessions: Yucatan II, III & IV Room
Council Meet: Celestun Room
Poster Sessions: Yucatan I Room (All posters will be presented both days)

Saturday March 25 2017

International Basal Ganglia Society Clinical Workshop 2017
In collaboration with the International Parkinson and Movement Disorder Society

Scientific Basis of Movement Disorders:
Pathophysiology and Pharmacology of the Basal Ganglia
Merida Room

Chaired by Jose A. Obeso and Jose Bargas

9: 00-9:10 Welcome and Introduction: Jose A. Obeso and Jose Bargas.

9:10-9:50 **P. Bolam. UK:** Functional Anatomy of the Basal Ganglia: Relevance to Movement Disorders

9:50-10:30 **H. Bergman. Israel:** Cortico-basal ganglia circuits in the parkinsonian state

10:30-10:50 General Discussion & questions

10:50-11:10 Coffe break

11:10-11:50 **E. Bezard. France:** a-Synuclein Pathophysiology: Therapeutic Implications

11:50-12:30 **J. Blesa. Spain:** Animal models of parkinsonism and compensatory mechanisms

12:30-12:50 General Discussion & questions

13:00-14:30 Lunch

14:30-14:50 **M. Morelli. Italy**: Levodopa-induced dyskinesias: Molecular and circuitry changes

14:50-15:30 **A. Stefani. Italy:** Deep Brain Stimulation: The mechanisms of action

15:30-15:50 **W. D. Hutchison. Canada**: Microelectrode recording methods for neurosurgical targets in basal ganglia and motor thalamus

15:50-16:10 General Discussion & questions

16:10-16:50 Coffee break

16:50-17:30 General Discussion & questions

16:30-17:00 Closing Remarks. Jose A. Obeso

Sunday, March 26 from 9:00 AM - 10:00 AM

Publishing Workshop
By Paul Bolam Oxford University, UK) co-Editor of the European Journal of Neuroscience
Yucatan II Room

How a scientific paper is handled by a journal and what we expect in a good paper

Topics to be covered:

- How a paper is handled once submitted to a journal
- What happens to your paper?
- The 'peer-review' system
- What the Editors do
- What the Reviewers do
- How to respond to Reviewers' comments
- Ethics of publishing human subjects, animals, plagiarism)
- What we expect in a good paper

Sunday, March 26 beginning at 11:00 AM

Selected topics in Basic Science Research
(Basic Science Tutorial)
Yucatan II Room

Chaired by: Nicola B. Mercuri. University of Rome Tor Vergata, Italy
Usefulness of Basic Research to understand neurological diseases of the basal ganglia

Mike Beckstead. University of Texas Health Science Center, San Antonio, USA
Optogenetics as a tool: probing synaptic plasticity in the dopaminergic system

Karina Possa Abrahao. NIAAA, USA
Ethanol effects on specific neurons and synapses of the Basal Ganglia

Carlos A. Paladini. University of Texas, San Antonio, USA
Dopamine Neurons In Vivo

Jeffrey Conn. Vanderbilt University, USA
M4 muscarinic receptors modulating striatal and nigral dopamine signaling

Hitoshi Morikawa. University of Texas, Austin, USA.
Calcium regulation of neuronal activity and plasticity in the mesolimbic system

Sunday, March 26 evening at 16:00 - 18:00
Council Meet

Celestun Room

Sunday, March 26 evening at 18:15 - 19:30
Opening Ceremony

Founder Member Conference
Yucatan II Room

Paul Bolam. Oxford Univ, UK
Reflections on the Basal Ganglia and Parkinson's Disease

20:00 WELCOMING RECEPTION. (BEER, WINE & TACOS)

ALL ORAL PRESENTATIONS WILL BE HELD IN THE YUCATAN II & III ROOM
ALL POSTER PRESENTATIONS WILL BE HELD IN THE YUCATAN I ROOM

Co-sponsor of the meeting

Prof. Paul Bolam FMedSci

Emeritus Professor and Senior Scientist: Paul Bolam is emeritus Professor of Anatomical Neuropharmacology and emeritus Senior Scientist at the MRC Brain Networks Dynamics Unit at the University of Oxford. Paul's research has focused on understanding the neuronal networks that constitute the basal ganglia by anatomical and combined quantitative anatomical and physiological approaches in health and in disease models, and he has published over two hundred articles on the subject.

Paul graduated in Pharmacology at Chelsea College University of London) in 1975. He then took up a graduate studentship at King's College Hospital Medical School University of London) and was awarded his Ph.D. in 1979. The same year, he joined the Department of Pharmacology at the University of Oxford, and remained in post until 1983 when he was awarded an MRC Senior Research Fellowship.

With his arrival in Oxford, Paul changed fields of research to join a team working on the anatomy and neuropharmacology of the basal ganglia, and has continued in this field ever since. In 1985, Paul became a founder-member of the MRC Anatomical Neuropharmacology Unit. He still works closely with colleagues at the Oxford Parkinson's Disease Center. He is also very active in public engagement in science, talking to school groups, patient and carer groups, and also giving public lectures.

Paul is also an Advisory Editor of Trends in Neuroscience, and a member of the editorial boards of several other journals. He has previously served as Secretary of the British Neuroscience Association, as President of the International Basal Ganglia Society, as a member of the Medical Research Council Neuroscience and Mental Health Board, and as Chair of the Research Advisory Panel of Parkinson's UK. In 2011, Paul was elected a Fellow of the Academy of Medical Sciences and, in 2012, a Fellow of the British Pharmacological Society.

Paul is currently co-Editor in Chief of the European Journal of Neuroscience. The journal is a peer-reviewed scientific journal in the field of developmental, molecular, cellular, systems, behavioral, and cognitive neuroscience. It was established in 1989 with Rainer Guillery then at the University of Oxford) as the founding editor-in-chief. Currently the journal is edited by John J. Foxe University of Rochester School of Medicine and Dentistry) and Paul Bolam Oxford University). The journal is published by the Federation of European Neuroscience Societies in collaboration with Wiley-Blackwell.

Monday, March 27 morning 8:30 - 10:30hs

Session I Pathophysiology of Parkinson´s disease

Organizational levels: from molecular to systems & behavior
Chair: Thomas Boraud. U. Bordeaux, France

1. *Laura Volpicelli*. University of Alabama, Tuscaloosa, USA
G2019S-LRRK2 expression increases the mobile pool of a-synuclein and accelerates recruitment to alpha-synuclein inclusions

2. *Erwan Bezard*. CNRS, Bordeaux, France
Parkinson's disease is a prion disease

3. *Emilie Syed*. MRC, Oxford, UK
Dynamics of striatal dopamine release related to movement and reward

4. *Aude Retailleau*. Univ of Haifa, Haifa, Israel.
Dopamine depletion in the striatum disrupts spatial learning.

5. *Jose A. Obeso*. Centro Integral en Neurociencias A.C. HM Cinac, Spain
Pathophysiology of PD: Findings and lessons from focal interventions

10:30 – 11:00 Coffee Break

11:00 - 13:00hs

Session II Establishment of cellular identity and function in the striatum

Organizational levels: molecular to systems
Chair: Jens Hjerling-Leffler. Karolinska Institutet, Sweden

1. *Yevgenia Kozorovitskiy*. Northwestern Univ. USA
Neuromodulation of postnatal synaptogenesis

2. *Tommas Ellender*. Oxford Univ. UK
Development of striatal neurons and circuits

3. *Sonia Garel*. École Normale Supérieure, France
Building the striatal mosaic: active intermixing of direct and indirect projection neurons

4. *Jens Hjerling-Leffler.* Karolinska Institutet, Sweden
Development of neuronal transcriptional identity in the striatum

13:00 – 15:00 FREE TIME

Monday, March 27 afternoon 15:00 - 18:00hs

Poster Session

18:00 - 20:00hs

Session III Neurophysiology and behavior in non human primates
Chair: Hugo Merchant. Instituto de Neurobiología, UNAM, Mexico

1. *Okihide Hikosaka*. Chief, Section of Neuronal Networks, NEI/NIH, USA.
   Basal ganglia for attention

2. *Léon Tremblay*. Centre de Neurosciences Cognitives, Lyon University, France
   Dopamine and serotonin modulation in Basal Ganglia circuits involved in behavioral disorders: Evidence from human and non-human Primate

3. *Bruno B. Averbeck*. Laboratory of Neuropsychology, NIMH/NIH, USA
   Striatal neural circuitry underlying reinforcement learning

4. *Masaki Tanaka*. Department of Physiology, Hokkaido University, Japan
   Subcortical mechanism of self-timing

5. *Sonja A. Kotz*. Department of Neuropsychology and Psychopharmacology, Maastricht University, The Netherlands
   On the importance of timing and rhythm in motor and non-motor behavior

Tuesday, March 28 morning 8:30 - 10:30hs

Session IV Basal Ganglia Circuits at the Center of Addiction

Organizational level: from cellular to systems
Chair: David M. Lovinger NIH, USA

1. *Peter Kalivas*. Medical University of South Carolina, USA
   Synaptic plasticity in the ventral pallidum regulates drug relapse

2. *Bernard Balleine*. University of Sydney, Australia
   The involvement of dorsomedial striatum in behavioural control

3. *David M. Lovinger*. NIH, USA
   Alcohol Promotes Habitual Behavior Through Actions on the Cortico-Basal Ganglia Circuitry

4. *Kathleen Grant*. Oregon National Primate Research Center/OHSU, USA
   Cognitive flexibility and cortico-striatal connectivity in the rhesus monkey

OPTIONAL EXCURSIONS. Coming back at 18:00 hs

Tuesday, March 28 evening 18:00 - 20:00hs

Direct and indirect pathways: Friends or Foes

A friendly conversation* between **Rui Costa** (Champaullimaud, Ctr., Portugal) and **Anatole Kreitzer** (Gladstone, UCSF, USA) aiming to understand Basal Ganglia conceptual models more dynamically: what remains and what has to be changed about the **"Two pathways model"** (or **"rate model"**), of the Basal Ganglia after 27 years of being one of the most heuristic models of neuroscience?

Moderator: D. J. Surmeier (Northwestern Univ., USA)

1. *R Costa*

Basal Ganglia models: "Complementary not opposite roles for direct and indirect pathways in basal ganglia function" (20 min)

2. *A Kreitzer*

"Distinct roles for direct and indirect pathways in basal ganglia function" (20 min)
Questions addressed or guided by J. Surmeier (10 min)

3. *A Kreitzer* Reply (10 min)
4. *R Costa* Reply (10 min)

General discussion guided by J. Surmeier (20 min)

*This conversation at the summit of the technological revolution in Basal Ganglia research substitutes the traditional **Key Note**

Wednesday, March 29 morning 8:30 - 10:30hs

Session V Revealing the Behavioral Functions of Basal Ganglia Circuits

Organizational levels: from systems to behavior
Chair: Joshua Berke. Univ of Michigan, USA

1. *Kenji Doya.* OIST, Japan

Coding of action and state values in the striatal compartments

2. *Ann Graybiel.* MIT, USA

Steps toward identifying functions of the striosome-matrix organization of the striatum

3. *Mark Howe.* Northwestern Univ., USA

Heterogeneous dynamics of dopaminergic projection axons in striatum during behavior

4. *Joshua Berke*. Univ of Michigan, USA

Gaining a richer understanding of dopamine signals in adaptive decision-making

10:30 – 11:00 Coffee Break

11:00 - 13:00hs

Session VI Striatal interneurons systems

Organizational levels: from neurons/synapses to networks/systems
Chair: James M.Tepper. Rutgers Univ., USA

1. *J. M. Tepper*. Rutgers U, USA
   Introduction

2. *Maxime Assous*. Rutgers University-Newark, USA
   Differential processing of thalamic information via distinct striatal interneuron circuits

3. *Enrico Bracci.* University of Sheffield, UK
   In the striatal soup: tonic and phasic interactions of autonomously active interneurons

4. *Gilad Silberberg*. Karolinska Institute, Sweden
   Intrinsic and extrinsic inhibitory inputs to striatal cholinergic interneurons

5. *Charles Wilson*. University of Texas, San Antonio, USA.
   Striatal (P)LTS cells: Oscillations, resonance and persistent depolarized state

13:00 – 15:00 FREE TIME

15:00 - 18:00hs

Poster Session

18:00 - 20:00hs

Session VII Cellular and functional heterogeneity of the external globus pallidus

Organizational levels: from molecular to systems
Chair: Mark Bevan. Northwestern Univ., USA

1. *Fumino Fujiyama*. Doshisha University, Japan
   Using a novel PV-Cre rat model to characterize pallidonigral cells and their terminations

2. *Aryn Gittis*. Carnegie Mellon Univ., USA
   Cell-specific pallidal stimulation produces long-lasting recovery of movement in a bilateral dopamine depletion model

3. *Hagai Bergman*. Hebrew University of Jerusalem, Israel
   Low frequency discharge bursters (LFDB) in the non-human primate GPe : discharge pattern and correlation properties

4. *Qiaoling Cui.* Northwestern Univ., USA
   Subcircuit-specific GABAergic alterations in the GPe of parkinsonian mice

5. *Jerome Baufreton*. Bordeaux Univ., France.
   Functional characterization of afferent inputs of GPe neurons

Thursday, March 30 morning 8:30 - 10:30hs

Session VIII Signaling mechanisms and striatal synaptic plasticity in LDOPA-induced dyskinesias

Organization levels: cellular to systems
Chair: Rosario Moratalla. Inst. Cajal, Spain

1. *Rosario Moratalla*. Cajal Institute, CSIC, Madrid, Spain
   Synaptic changes after L-DOPA in the lesioned striatum

2. *Elaine del Bel*. Univ of Sao Paulo, Brasil
   Chronic l-DOPA treatment in parkinsonian rats induces astroglyosis in the nigro-striatal–cortical pathway

3. *Xiomara Pérez*. SRI International, Menlo Park, CA, USA
   Striatal circuitry regulating L-dopa-induced dyskinesias.

4. *Alexandra Nelson*. University of California, San Francisco, USA
   Cell type-specific responses of striatal neurons in levodopa-induced dyskinesia

5. *Oscar Solis*. Cajal Institute & University of Puebla Mexico
   Role of dopamine D3 receptors in LID

10:30 – 11:00 Coffee Break

Thursday, March 30 11:00 - 13:00hs

Session IX Modeling and theory of basal ganglia circuitry and function

Organizational levels: from neurons/synapses to networks/systems
Chair: Dieter Jaeger. Emory Univ, USA

Dieter Jaeger. Emory Univ, USA
Introduction to Modeling Basal Ganglia. 15 min (no questions)

1. *Kim Avrama Blackwell*. G. Mason Univ., USA
How do post-synaptic signaling molecules, activated by calcium and neuromodulators, contribute to striatal synaptic plasticity

2. *Jeanette Hällgren Kotaleski*. KTH, Stockholm, Sweden
Reward learning - insights from subcellular level modeling

3. *Fred Hamker*. University Chemniz, Germany
Neuro-computational insights into basal ganglia pathway functions

4. *Rafal Bogacz*. Oxford Univ., UK.
Learning reward uncertainty in the basal ganglia

13:00 – 15:00 FREE TIME

15:00 - 17:00hs

Session X Cholinergic modulation of striatal activity

Organizational levels: from neurons to circuits
Chair: Icnelia Huerta-Ocampo. Rutgers University, USA

1. *Dorothy Oorschot*. University of Otago, New Zeeland
Synaptic connectome of midbrain dopaminergic neurons, striatal spiny projection neurons and striatal cholinergic interneurons in the rat

2. *Yanfeng Zhang*. Oxford, UK.
The generation of pauses in striatal cholinergic interneurons

3. *Icnelia Huerta Ocampo*. Rutgers University, USA
Brainstem cholinergic interactions with the thalamostriatal system

4. *Jeffrey Wickens*. Okinawa Institute of Science and Technology, Japan
Role of striatal cholinergic interneurons in the cellular mechanisms of behavioral flexibility

19:00 - 24:00hs Farewell Banquet. Hacienda Chenkú

Poster Sessions

POSTERS SESSIONS

Session I. Monday March 27. 15:00 – 18:00

Session II. Wednesday March 29. 15:00 – 18:00

All posters will be presented both days

1 Partial Deletion of Cholinergic Interneurons from Dorsolateral Striatum and its Role in Behavioral Responses. *Nilupaer Abudukeyoumu*, Yoko Nakano, Marianela García-Muñoz, Gordon W. Arbuthnott

2 Reorganization of glutamatergic transmission to striatal cholinergic interneurons accounts for the reduction in their burst-pause response to thalamic stimulation after dopamine depletion. *Jose de Jesus Aceves Buendia*, Wei-Hua Chiu, LiorTiroshi and Joshua A. Goldberg

3 Neurovascular Uncoupling in the Dorsal Striatum: A Rodent Optogenetic-fMRI Study. *Daniel Albaugh,* Brittany Katz, Nathalie van Den Berge, Chunxiu Yu, Warren Grill, Garret Stuber, Yen-Yu Ian Shih

4 Representation of task relevant dimensions in dorsolateral striatum. *Flavia Aluisi,* George Kour, Yael Zahar and Genela Morris

5 Activity transients in nigral dopaminergic neurons gate and invigorate self-paced action initiation. *Joaquim Alves Da Silva,* Fatuel Tecuapetla, Vítor B Paixão, Rui M Costa

6 Direct and indirect pathways from caudate tail, together, guide saccadic eye movement to historically good objects. *Hidetoshi Amita*, Hyoung F. Kim, Okihide Hikosaka

7 Compartmental and Cellular Distribution of DARPP-32 in the Control Human Striatum. C. *J. Arasaratnam*, H. J. Waldvogel, and R. L. M. Faull

8 Effects of voluntary exercise on dopamine tissue content and BDNF expression in young and middle-aged mice. *Jennifer C. Arnold*, Adam C. Mar, Moses V. Chao, Margaret E. Rice

9 Astrocytic and mitochondrial dysfunction in the subthalamic nucleus in the Q175 knock-in model of Huntington's disease. *Jeremy F. Atherton*, David Wokosin, D. James Surmeier, Mark D. Bevan

10 D2 receptors on D2 MSNs and cholinergic interneurons modulate striatal endocannabinoid dependent long-term synaptic depression. *Shana M. Augustin* and David M. Lovinger

11 Muscarinic modulation of Ca^{+2} channels in striatal projection neurons of Parkinsonian mice. *Avilés-Rosas Victor H*, Rendón-Ochoa Ernesto, Hernández-Flores Teresa and Bargas José

12 Functionally classifying an ensemble of healthy and pathological basal ganglia network models. *Jyotika Bahuguna*, Tom Tetzlaff, Arvind Kumar, Jeanette Hellgren Kotaleski, Abigail Morrison

13 External circuit influences on neural computation in the striatum. *Konstantin I. Bakhurin*, Kwang Lee, Leslie D. Claar, Vishwa Goudar, Dean V. Buonomano, Sotiris C. Masmanidis

14 Model prediction: The STN-GPe loop enhances the selection of previous successful responses during exploration. *Javier Baladron* and Fred Hamker

15 Acute Tsc1 deletion alters intrinsic and synaptic excitability of striatonigral medium spiny neurons. *Katelyn Benthall*

16 Receptor studies suggest two neurochemically distinct populations of neurons in the human globus pallidus. *Brittney L Black,* Henry J Waldvogel, Richard LM Faull

17 The fate of striatal TH neurons in pre-symptomatic MPTP monkeys, Incidental Lewy Bodies and Parkinson's disease. *J. Blesa N*, Lopez Gonzalez del Rey P., Garcia Esparcia, I, Trigo Damas Ferrer, C. Cavada, J. Obeso

18 Dopamine D2 receptor mediated effects of stimulant drugs on food and water intake. *Miriam E. Bocarsly* and Veronica A. Alvarez

19 Firing patterns in substantia nigra pars reticulata neurons in vitro after dopamine blockade or deprivation in mouse. *Verónica Alejandra Cáceres Chávez*, Ricardo Hernández Martínez, Jesús Pérez Ortega, Marco Arieli Herrera Valdez, Elvira Galarraga, José Bargas

20 Aldehyde dehydrogenase 1–positive nigrostriatal dopaminergic fibers exhibit distinct projection pattern and dopamine release dynamics at dorsal striatum. Carmelo Sgobio, Junbing Wu, Wang Zheng, Margaret I. Davis, David M. Lovinger, *Huaibin Cai*

21 Changes in cortical phase amplitude coupling in a progressive model of primate parkinsonism. *M. Caiola*, A. Devergnas, D. Pittard and T. Wichmann

22 L-DOPA-Induced Dyskinesia in the mouse striatal microcircuit. *Vladimir Melecio Calderón Ortiz*, Aldo Luna, María Fernanda Ramírez López, René Drucker Colín, José Bargas

23 Abnormal STN-GPe network activity in the Q175 knock-in mouse model of Huntington's disease. *Joshua W. Callahan* & Mark D. Bevan

24 Abnormal information flow through the cortico-basal ganglia pathway sin MPTP-treated parkinsonian monkeys*. Satomi Chiken*, Atsushi Nambu

25 NMDA receptor-dependent loss of cortico-subthalamic inputs following degeneration of midbrain dopamine neurons. *Hong-Yuan Chu*, Eileen L. McIver, Jeremy F. Atherton, Mark D. Bevan

26 Oscillations activity insubthalamic nucleus correlates with gait disturbance in PD. *Chiung Chu CHEN*, Chien Hung YEH, Wey Yil LIN, Po Hsuen TU, Shih Tseng LEE, Chin Song LU

27 Dysregulation of cortical synaptic input to central striatum in the Sapap3-KO OCD mouse model. *Victoria Corbit*, Aryn Gittis, and Susanne Ahmari

28 Differential Cholinergic Modulation of Striosomal and Matrix Striatal Neurons. *Jill R. Crittenden*, Carolyn J. Lacey, Eddie Feng JuWeng, Yingxi Lin, Ann M. Graybiel

29 Deletion of *Maged1* in mice abolishes locomotor and reinforcing effects of cocaine. Jean-François De Backer, Stéphanie Monlezun, Bérangère Detraux, Adeline Gazan, Giuseppe Cannazza, Sebastien Valverde, Olga Valverde, Philippe Faure, Michele Zoli, Olivier De Backer, David Gall, Serge N. Schiffmann, and *Alban de Kerchove d'Exaerde*

30 The subthalamic nucleus - the driving force of basal ganglia pathophysiology in parkinsonism. *Marc Deffains*, Liliya Iskhakova, Shiran Katabi, Suzanne N. Haber, Zvi Israel & Hagai Bergman

31 Thalamo-striatal contribution during the start and executions of an action sequences. *Edgar A. Díaz Hernández*, Josue O. Ramírez Jarquín and Fatuel Tecuapetla Aguilar

32 Dopaminergic modulation of Cholinergic communication in the Striatum. *Matthijs C. Dorst*, Carolina B. Gonzales, Jens Hjerling-Leffler, and Gilad Silberberg

33 PV+ interneurons function as hubs during striatal microcircuit dynamics. *Mariana Duhne*, Ariadna Aparicio-Juárez, Esther Lara, Antonio Lavilleand José Bargas

34 Distinct Firing Patterns of GPeArkypallidal and Prototypical Neurons in a Reinforcement Learning Task. *Michael A. Farries* and Joshua D. Berke

35 Behavioral Assessment of Gradual Dopamine Depletion in the Rat. *Heidi Y Febinger*, Christine M Henry, and Alan Dorval

36 Influence of reserpine-induced striatal dopamine depletion in adult rats upon modulation of corticostriatal transmission by A1 and A2A adenosine receptors. *Fernández-Fausto Ana Rosa*, Álvarez Cervera Fernando José, Salgado Burgos Humberto, Góngora Alfaro José Luis

37 Basal Ganglia: exploiting circuit gain and non-linear interactions for the generation of endophenotypes. *Vincenzo G. Fiore*, Xiaosi Gu

38 Reinforcement determines the timing dependence of corticostriatal synaptic plasticity in vivo. *Simon D Fisher*, Paul B Robertson, Melony J Black, Peter Redgrave, Mark A Sagar, Wickliffe C Abraham, John N J Reynolds

39 M_4 receptor activation normalizes dopaminergic signaling in Huntington's Disease (HD) mouse models. *Daniel J. Foster,* Madigan L.Lavery, Jerri M. Rook, Mark S. Moehle, Zixiu Xiang, P. Jeffrey Conn

40 Using a novel PV-Cre rat model to characterize pallidonigral cells and their terminations. *Fumino Fujiyama*.

41 Effects of optogenetic stimulation of thalamostriatal terminals in normal and parkinsonian monkeys*. Galvan A*., Hu X., Smith Y., and Wichmann T.

42 Tracts involved in the improvement of clinical outcome subsequent to ablative neurosurgery of the subthalamus in Parkinson's disease. *Maria Guadalupe García-Gomar*, Francisco Velasco and Luis Concha

43 Dendritic CaV3 channels distinguishes corticostriatal suprathres hold responses of direct and indirect pathways striatal projection neurons. *García-Vilchis B*, Suárez Rodríguez P, Tapia D, Arias García MA, Serrano Reyes M, Bargas J and Galarraga E

44 Encoding of behavioural choice in the prefrontal-striatal circuit: clues from multisite single unit recordings in a go no-go task in rats. Christine Stubbendorff, Andrew MJ Young, *Todor V Gerdjikov*

45 Characterization of striatal monoamine signaling and striatally-mediated motor and cognitive tasks in the DJ-1 KO rat model of Parkinson's disease. *Danielle M. Giangrasso*, Teri M. Furlong, & Kristen A. Keefe

46 L-DOPA treatment for methamphetamine-induced basal ganglia dysfunction. *Anne S. Gibson* and Kristen A. Keefe

47 Astrocytic mechanism controlling dopaminergic neuron activity. *Jorge Gomez*

48 Effect of chronic nicotine administration on levodopa induced dyskinesias in a rodent model of Parkinson's disease. *A. L. Gómez-Paz*, M. Palomero-Rivero, D. Millán-Aldaco, M. Guerra-Crespo, R. Drucker-Colín

49 Activation of medium spiny neurons by optogenetics induces dyskinesiasin a Parkinson Disease model. Hernandez LF, *Castela I*, Ruiz-DeDiego I, Obeso JA, Moratalla R.

50 Preferential loss of cholinergic interneuronsin the putamen of non-human primates in early manganese-induced parkinsonism. *KK Gonzales*, J McGlothan, JS Schneider, TR Guilarte

51 The chemogenetic suppression of the primate STN induces abnormal involuntary movement. *Taku Hasegawa*, Chiken Satomi, Kenta Kobayashi, Atsushi Nambu

52 How do cortico-striatal projections impact on downstream basal ganglia circuitry?. *Sarah R. Heilbronner*, Mariah A.A. Meyer, & Suzanne N. Haber

53 Nicotine modifies inhibitory synapses in the striatum in a Parkinsonian mouse model. *Fabiola Hernández Vázquez*, Jesús Pérez-Ortega, Elvira Galarraga, René Drucker-Colín and José Bargas

54 Clorogenic acid as a neuroprotector in striatal neurodegeneration**.** Alam Hernández-González, Elibeth Monroy, Rubén Antonio Vázquez Roque, Ernesto Mendoza, Gonzalo Flores, *Elizabeth Hernández Echeagaray*

55 Correlated Neuronal Activity in the Mouse Motor Cortex. *Teresa Hernández Flores*, Omar Jáidar, Yoko Nakano, Marianela García Muñoz, Gordon W. Arbuthnott

56 A novel role for the eIF2a translational control pathway in dystonia: implications in cortico striatal synaptic plasticity. *Ricardo Hernández Martínez*, Joseph E Rittiner, Zachary F. Caffall, Miranda K. Shipman, and Nicole Calakos

57 Personality changes following left subthalamic nucleus infarct: A case report. *Herrera Díaz Pamela Montserrat*, Seubert Ravelo Ana Natalia, Salgado Ceballos Hermelinda, Morales Briceño Hugo

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