



NEURALNET GDR 2018 CONFERENCE

UNDERSTANDING NEURAL NETWORKS: FROM DYNAMICS TO FUNCTION

Wednesday, December 5th, 2018

13:00 - 13:45 **WELCOME COFFEE**

13:45 - 14:00 **INTRODUCTION**

SESSION 1 • CHAIRMAN: GERMAN SUMBRE, ENS

14:00 - 14:45 **KEYNOTE LECTURE "NEURAL MOTION"**

GILLES LAURENT (MPI, Frankfurt)

14:45 - 15:15 **PHOTOTAXIS IN ZEBRAFISH: BEHAVIORAL STRATEGIES & NEURONAL COMPUTATION**

GEORGES DEBREGÉAS (UPMC, Paris) • *Invited speaker*

15:15 - 15:35 **SPONSORS' PRESENTATIONS**

15:35 - 16:00 **POSTER BLITZ**

16:00 - 17:15 **COFFEE BREAK • POSTERS SESSION**

SESSION 2 • CHAIRWOMAN: CHRISTELLE ROCHEFORT, UPMC

17:30 - 18:00 **POPULATION CODING OF VALUE AND ACTION IN THE PREFRONTAL CORTEX DURING AVOIDANCE BEHAVIOR**

CYRIL DEJEAN (Neurocampus, Bordeaux) • *Invited speaker*

18:00 - 18:30 **ENTORHINAL CIRCUIT MECHANISMS FOR SPATIAL MEMORY**

MATT NOLAN (Edimburg University) • *Invited speaker*

18:30 - 18:45 **DISSOCIATION OF FEAR INITIATION AND MAINTENANCE BY BREATHING-DRIVEN PREFRONTAL OSCILLATIONS**

SOPHIE BAGUR (ESPCI, Paris) • *Selected talk*

18:45 **DINNER COCKTAIL CHEESE AND WINE !**

Thursday, December 6th, 2018

SESSION 3 • CHAIRMAN: KARIM BENCHENANE, ESPCI

9:00 - 9:30 **PRELIMBIC CIRCUITS FOR SUCCESSFUL GAMBLING**
THOMAS KLAUSBERGER (MedUni, Wien) • *Invited speaker*

9:30 - 10:00 **MECHANISMS OF MEMORY FORMATION: FROM HIPPOCAMPAL TO OLFACTORY NETWORKS**
LISA ROUX (Neurocampus, Bordeaux) • *Invited speaker*

10:00 - 10:15 **A HIPPOCAMPUS-ACCUMBENS TRIPARTITE NEURONAL MOTIF GUIDES APPETITIVE MEMORY IN SPACE**
STÉPHANIE TROUCHE (Oxford University) • *Selected talk*

10:15 - 11:15 **COFFEE BREAK • POSTERS SESSION**

SESSION 4 • CHAIRMAN: MICHAËL ZUGARO, CIRB

11:15 - 11:45 **THE ROLE OF SENSORY INPUTS IN GENERATING AND SUSTAINING COGNITIVE MAPS**
FRANCESCA CACUCCI (UCL, London) • *Invited speaker*

11:45 - 12:00 **SPATIOTEMPORAL SIGNATURE OF NAVIGATION SIGNALS IN VISUAL CORTEX & HIPPOCAMPUS**
JULIEN FOURNIER (UCL, London | UPMC, Paris) • *Selected talk*

12:00 - 14:00 **LUNCH BUFFET • POSTERS SESSION**

SESSION 5 • CHAIRMAN: SRDJAN OSTOJIC, ENS

14:00 - 14:30 **RESILIENCE TO DAMAGE AND PERTURBATIONS IN SPIKE CODING NETWORKS**
CHRISTIAN MACHENS (Champalimad Institute, Lisbon) • *Invited speaker*

14:30 - 15:00 **OPTIMAL CONTROL OF BALLISTIC MOVEMENTS IN A THALAMO-CORTICAL CIRCUIT MODEL**
GUILLAUME HENNEQUIN (Cambridge University) • *Invited speaker*

15:00 - 15:20 **A COMPUTATIONAL MODEL OF THE HEALTHY AND EPILEPTIC HIPPOCAMPUS OVER THE SLEEP-WAKE CYCLE**
AMÉLIE AUSSEL (Université de Lorraine) • *Selected talk*

15:20 - 16:45 **COFFEE BREAK • POSTERS SESSION**

16:45 - 17:30 **GDR GENERAL ASSEMBLY • POSTERS SESSION**

SESSION 6 • CHAIRMAN: DANIEL SCHULZ, UNIC

17:30 - 18:00 **ORGANIZATION AND FUNCTION OF HIGHER-ORDER THALAMIC CIRCUITS**
SONJA HOFER (UCL, London) • *Invited speaker*

18:00 - 18:30 **CRACKING THE RETINAL CODE AND CIRCUITS**
OLIVIER MARRE (IDV, Paris) • *Invited speaker*

18:30 - 18:45 **RICH SPATIO-TEMPORAL STIMULUS DYNAMICS UNVEIL SENSORY SPECIALIZATION IN CORTICAL AREA S2**
EVAN HARRELL (UNIC) • *Selected talk*

18:45 **GALA DINNER !**

Friday, December 7th, 2018

SESSION 7 • CHAIRMAN: BRICE BATHÉLLIER, UNIC

9:00 - 9:30 **THALAMOCORTICAL INTERACTIONS IN COGNITIVE CONTROL AND FLEXIBILITY**
MICHAEL HALASSA (MIT, Cambridge MA) • *Invited speaker*

9:30 - 10:00 **THE SPATIAL & TEMPORAL DYNAMICS OF ATTENTION: INSIGHTS FROM DIRECT ACCESS TO THE ATTENTIONAL SPOTLIGHT**
SULIANN BEN HAMED (ISC, Lyon) • *Invited speaker*

10:00 - 10:15 **AN ATTENTIONAL SENSORY TEMPLATE IN FRONTAL CORTEX**
YVES BOUBENEC (ENS, Paris) • *Selected talk*

10:15 - 11:15 **COFFEE BREAK • POSTERS SESSION**

SESSION 8 • CHAIRMAN: VINCENT VILLETTE, ENS

11:15 - 11:45 **A RANDOM-ACCESS STRATEGY FOR ALL-OPTICAL CONTROL & RECORDING OF NEURONAL MEMBRANE POTENTIAL IN VIVO**
STÉPHANE DIEUDONNÉ (ENS, Paris) • *Invited speaker*

11:45 - 12:00 **GRAPHENE BASED NANO-NEUROELECTRONICS**
CÉCILE DELACOUR (Institut NÉEL, Grenoble) • *Selected talk*

12:00 - 12:10 **POSTER PRIZES**

12:10 - 14:00 **LUNCH BUFFET • POSTERS SESSION**

SESSION 9 • CHAIRWOMAN: ÉIRINI PAPAGIAKOUMOU, IDV

14:00 - 14:15 **PREFRONTAL CIRCUIT ENCODING FEAR AND SAFETY**
FRÉDÉRIC GAMBINO (NeuroCampus, Bordeaux) • *Selected talk*

14:15 - 14:45 **ALL-OPTICAL HIGH RESOLUTION 3D INVESTIGATION OF BRAIN DYNAMICS UNDERLYING BEHAVIOR**
MARCO DAL MASCHIO (UNIPD, Padova | MPI, Munich) • *Invited speaker*

14:45 - 15:20 **TOWARDS CIRCUIT OPTOGENETICS**
VALENTINA EMILIANI (IDV, Paris) • *Invited speaker*

15:20 - 15:30 **CONCLUDING REMARKS**

15:30 **END**

