

# PROGRAM

## MCC 2019

Langenbeck-Virchow-Haus GbR  
Luisenstraße 58/59  
10117 Berlin (Mitte), Germany



**7<sup>th</sup> International Symposium on  
Motivational and Cognitive Control**

**16<sup>th</sup> - 18<sup>th</sup> September 2019  
Berlin**



# ORGANISATION TEAM



**Markus Ullsperger**



**Tanja Endrass**



**Adrian Fischer**



**Julia Rogge**



**Claudia Danielmeier**



**Hans Kirschner**



**Svende Kübler**

**The support from the following students is gratefully acknowledged:**

Leonie Oevel  
Kathleen Rödger  
Yoonsang Lee  
Kateryna Yasynska  
Ikenna Uba  
Sina Alexandra Schwarze

# WELCOME TO MCC 2019!

Here, we put together some useful information on the 7<sup>th</sup> International Symposium on Motivational and Cognitive Control, MCC 2019.

A brief timetable can be found on the first pages of this booklet. Please check [mcc2019.com](http://mcc2019.com) for possible updates.

The titles for the poster sessions are listed on pages 11 - 34. Additional information can be found here:

[www.conftool.com/mcc2019/sessions.php](http://www.conftool.com/mcc2019/sessions.php)



Details incl. abstracts can be reached by selecting a session (oral or poster) and clicking on “Show abstracts”.

Additional information and directions can be found on pages 35 - 38.

If you have any questions please ask The MCC Team with the green name badges.

We wish you an exciting time in Berlin!

With best regards,  
Your MCC 2019 organizers

MONDAY  
SEPT. 16

REGISTRATION  
OPEN

8:00 – 19:15

**TIME**

8:00

**MOUNT POSTERS I**

8:45 – 9:00

**OPENING REMARKS**

Markus Ullsperger

9:00 - 10:20

**SESSION I:  
COGNITIVE CONTROL**

9:00

**Beyond Dual Systems: Neural Activity in Performance-Monitoring, Cognitive Control, and Valuation Networks Predicts Real-Life Self-Control Failures**

Thomas Goschke

9:40

**Weighing the costs and benefits of control**

Amitai Shenhav

10:20 – 10:50

**REFRESHMENT BREAK**

10:50 – 12:40

**SESSION II:  
ERRORS AND POST-ERROR  
ADJUSTMENTS**

10:50

**The role of the posterior medial frontal cortex in post-error adaptive behaviour and learning from errors**

Claudia Danielmeier

11:30

**Error-related brain activity and adaptive post-error adjustments**

Marco Steinhauser

12:10

**PANEL DISCUSSION:**

The posterior medial frontal cortex, cognitive control, and decision making

Discussant: Markus Ullsperger

12:40 – 13:20

**LUNCH BREAK**

## **TIME**

- 13:20 – 14:40 **POSTER SESSION I**
- 14:40 – 16:40 **SESSION III:  
COMPUTATIONAL NEUROSCIENCE OF  
LEARNING AND DECISION MAKING**
- 14:40 **What is the role of the orbitofrontal  
cortex in decision making?**  
Yaël Niv
- 15:20 **Structure learning and the parietal  
cortex**  
Christopher Summerfield
- 16:00 **Beyond scalar reward prediction  
errors: corticostriatal mechanisms of  
structure learning**  
Michael Frank
- 16:40 – 17:10 **REFRESHMENT BREAK**
- 17:10 – 19:10 **SESSION IV: CLINICAL  
NEUROSCIENCE OF MOTIVATIONAL  
AND COGNITIVE CONTROL**
- 17:10 **Recognizing value: Ventral prefrontal  
contributions to multi-attribute  
decisions**  
Lesley Fellows
- 17:50 **Performance monitoring in obsessive-  
compulsive disorder**  
Tanja Endrass
- 18:30 **Impulsivity and the subthalamic  
nucleus: neurophysiological studies**  
Valerie Voon
- 19:15 **Dismantle Posters I**

TUESDAY  
SEPT. 17

REGISTRATION  
OPEN

8:30 – 18:40

**TIME**

8:30

**MOUNT POSTERS II**

9:00 - 10:20

**SESSION V:  
NEUROCHEMISTRY OF  
MOTIVATIONAL AND COGNITIVE  
CONTROL**

9:00

**Chemistry of the adaptive mind**

Roshan Cools

9:40

**Multiple axes of dopamine  
evaluation systems in behavioral  
choice**

Mitsuko Watabe-Uchida

10:20 – 10:50

**REFRESHMENT BREAK**

10:50 – 11:30

**SESSION VI:  
NEUROCHEMISTRY OF  
MOTIVATIONAL AND COGNITIVE  
CONTROL**

10:50

**Wake up! How arousal influences  
value-based choice and exploratory  
behavior**

Christian Ruff

11:30 – 12:00

**PANEL DISCUSSION:**  
Computations and mechanisms for  
controlling sensitivity to new information  
Discussant: Matthew Nassar

12:00 – 12:40

**LUNCH BREAK**

12:40 – 14:00

**POSTER SESSION II**

## TIME

14:00 – 15:20	<b>SESSION VII:</b> COMPARATIVE SOCIAL AND DECISION NEUROSCIENCE
14:00	<b>Comparative primate neuroscience of the social brain</b>  Rogier Mars
14:40	<b>Neural basis of social reward monitoring and valuation</b>  Masaki Isoda
15:20 – 15:50	<b>REFRESHMENT BREAK</b>
15:50 – 17:10	<b>SESSION VIII:</b> COMPARATIVE DECISION NEUROSCIENCE
15:50	<b>Where to look next? Information search and choice in humans and other primates</b>  Laurence Hunt
16:30	<b>A premotor circuit responsible for flexible decision making.</b>  Michael Shadlen
17:10 – 17:40	<b>PANEL DISCUSSION:</b> TOPIC TBA  Discussant: Soyoung Park
17:40	<b>Dismantle Posters II</b>
20:00 – 2:00	<b>SOCIAL EVENT:</b> Dinner at Alte Pumpe Markus Ullsperger: The history and future of MCC. Pitches: Next MCC site

WEDNESDAY  
SEPT. 18

REGISTRATION  
OPEN

8:30 – 17:00

## TIME

8:30

### **MOUNT POSTERS III**

9:00 – 11:00

### **SESSION IX: CORTICAL AND SUBCORTICAL MECHANISMS OF CONTROL**

9:00

**The anatomo-functional role of the  
subthalamic nucleus in strategic  
decision-making**

Birte Forstmann

9:40

**$\beta$ -bursts as a marker of the trial-to-  
trial dynamics of movement  
initiation and cancellation**

Jan R. Wessel

10:20

**Rhythms for Cognition:  
Communication through Coherence**

Pascal Fries

11:00 – 11:30

### **REFRESHMENT BREAK**

11:30 – 12:50

### **SESSION X: MECHANISMS OF DECISION MAKING**

11:30

**Flexible decision-making through  
long-term integration of evidence**

Christian Ruff

12:10

**Tracking Decision-Making Signals in  
Human EEG**

Adrian G. Fischer

12:50 – 13:30

### **LUNCH BREAK**

13:30 – 14:50

### **POSTER SESSION III**

## **TIME**

14:50 – 16:10	<b>SESSION XI: COMPUTATIONAL NEUROSCIENCE OF LEARNING AND DECISION MAKING</b>
14:50	<b>Prospection, motivation and awareness during reward-guided choice</b>  Nils Kolling
15:30	<b>The role of uncertainty in model construction and action selection</b>  Jill O'Reilly
16:10 – 16:40	<b>PANEL DISCUSSION:</b> The role of cognitive maps in neural systems underlying reward processing and value based decision making  Discussant: Nicolas Schuck
16:40 – 17:10	<b>CLOSING REMARKS, SELECTION OF NEXT MCC SITE</b>
17:10	<b>Dismantle Posters III</b>

## Satellite Workshop

### Advanced Model-Based, Single-Trial EEG Analysis

Adrian G. Fischer (AGF) & Jan R. Wessel (JRW)

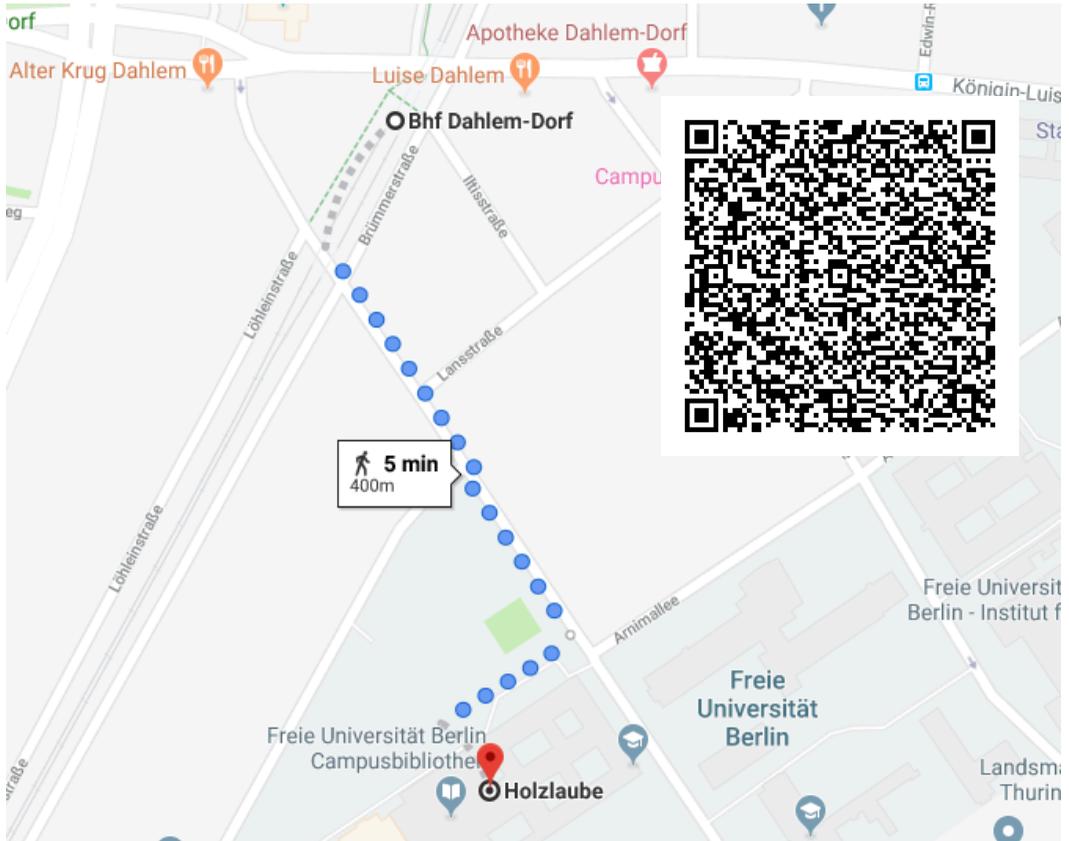
- |               |   |
|---------------|---|
| 9:00 – 9:45   | <b>Session 1 (AGF)</b><br>Why single-trial analyses?  |
| 9:45 – 10:25  | <b>Session 2 (JRW)</b><br>Pre-processing, introduction to ICA   |
| 10:25 – 10:40 | <b>Coffee Break</b>   |
| 10:40 – 11:30 | <b>Example session I (AGF)</b><br>Setting-up your data and running a single-trial regression analysis with the STA-TB   |
| 11:30 – 12:30 | <b>Session 3 (JRW)</b><br>ICA as a tool to increase SNR in EEG data<br><b>Example session II (JRW)</b><br>COMPASS to select ICs                               |
| 12:30 – 13:30 | <b>Lunch Break</b>  |
| 13:30 – 14:10 | <b>Example session III (AGF)</b><br>EEG regression with independent component activity<br><b>Example session IV (AGF)</b><br>Combine data across participants |
| 14:15 – 14:45 | <b>Session 5 (JRW)</b><br>Time-frequency decomposition and single-trial analyses.   |
| 14:45 – 15:00 | <b>Coffee Break</b>   |
| 15:00 – 16:00 | <b>Example session V (AGF)</b><br>Run a TF decomposition and GLM analysis   |
| 16:00 – 16:30 | <b>Questions, more examples, discussion</b>   |

THURSDAY  
SEPT. 19

SEPARATE  
REGISTRATION  
AND  
ADDITIONAL  
FEE

WORKSHOP WILL BE HELD @  
FREIE UNIVERSITÄT BERLIN  
FABECK STREET 23-25 ("HOLZLAUBE"), 14195 BERLIN

## ROOM 1.205 I



### Directions from Berlin Central Train Station:

travel time ca. 30 min:

**S-Bahn train S9** (direction Spandau) to  
**Zoologischer Garten**,

change to **subway U2** (direction Pankow) to  
**Wittenbergplatz**,

change to **subway U3** (direction Krumme Lanke) to  
**Station Dahlem Dorf**;

From there, follow directions from the map above. 10

# POSTER SESSION I

MONDAY, SEPTEMBER 16, 13:20 – 14:40

## Poster I - 01

### **A Mechanistic Account of Constraints on Control-Dependent Processing: Shared Representation, Conflict and Persistence**

**Sebastian Musslick, Jonathan Cohen**

Princeton University, United States of America; [sebastian@musslick.de](mailto:sebastian@musslick.de)

## Poster I - 02

### **Adaptive Rescheduling of Error Awareness in Multitasking**

**Robert Steinhauser, Marco Steinhauser**

Catholic University of Eichstätt-Ingolstadt, Germany; [robert.steinhauser@ku.de](mailto:robert.steinhauser@ku.de)

## Poster I - 03

### **Cognitive control from the perspective of control theory: computational modeling and fMRI**

**Joshua Brown, Noah Zarr**

Indiana University, United States of America; [jwbrown@indiana.edu](mailto:jwbrown@indiana.edu)

## Poster I - 04

### **Evidence accumulation during perceptual decision making: Beta-lateralization builds up over time throughout a delay**

**Julia Rogge<sup>1,2</sup>, Gerhard Jocham<sup>1,3</sup>, Markus Ullsperger<sup>1,2,4</sup>**

<sup>1</sup>ESF International Graduate School on Analysis, Imaging and Modelling of Neuronal and Inflammatory Processes; <sup>2</sup>Institute of Psychology, Otto-von-Guericke University Magdeburg, Germany; <sup>3</sup>Institut für Experimentelle Psychologie, Heinrich-Heine-Universität Düsseldorf, Germany; <sup>4</sup>Center for Behavioral Brain Sciences, Magdeburg, Germany; [jrogge@ovgu.de](mailto:jrogge@ovgu.de)

## Poster I - 05

### **Choice-Induced Modifications of Stimulus-Outcome Associations Guide Future Decision Making**

**Lennart Luettgau<sup>1,2</sup>, Claus Tempelmann<sup>3</sup>, Luca Kaiser<sup>1,4</sup>, Gerhard Jocham<sup>1,2,4</sup>**

<sup>1</sup>Biological Psychology of Decision Making, Institute of Experimental Psychology, Heinrich Heine University Düsseldorf, Germany; <sup>2</sup>Center for Behavioral Brain Sciences, Otto-von-Guericke University, Magdeburg, Germany; <sup>3</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany; <sup>4</sup>SFB 779, Neurobiology of Motivated Behavior, Magdeburg, Germany; [luettgau@uni-duesseldorf.de](mailto:luettgau@uni-duesseldorf.de)

## Poster I - 06

### Dissociable roles of cortical excitation-inhibition balance during patch-leaving versus value-based choice

Luca Franziska Kaiser<sup>1,2</sup>, Theo Oliver Jens Gründler<sup>2</sup>, Lennart Lüttgau<sup>2,6</sup>, Oliver Speck<sup>2,3,4,5</sup>, Gerhard Jocham<sup>1,2,6</sup>

<sup>1</sup>SFB 779, Neurobiology of Motivated Behavior, Magdeburg, Germany; <sup>2</sup>Center for Behavioral Brain Sciences, Otto-von-Guericke University, Magdeburg, Germany; <sup>3</sup>Department of Biomedical Magnetic Resonance, Institute for Experimental Physics, Otto-von-Guericke University Magdeburg; <sup>4</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany; <sup>5</sup>German Center for Neurodegenerative Diseases (DZNE), Magdeburg, Germany; <sup>6</sup>Department of Experimental Psychology, Heinrich-Heine University, Düsseldorf, Germany; [gerhard.jocham@hhu.de](mailto:gerhard.jocham@hhu.de)

## Poster I - 07

### A COGNITIVE BRANCHING MODEL OF PAIN-INTERFERENCE

Georgia Hadjisi<sup>1</sup>, Amy Ying Lin<sup>1</sup>, Andrew Yu<sup>1</sup>, Romina Sotoodeh<sup>1</sup>, David A. Seminowicz<sup>4,5</sup>, Mary Pat McAndrews<sup>4,5</sup>, Massieh Moayed<sup>1</sup>

<sup>1</sup>Centre for Multimodal Sensorimotor and Pain Research, Faculty of Dentistry, University of Toronto, Toronto, ON, Canada; <sup>2</sup>Department of Neural and Pain Sciences, School of Dentistry, University of Maryland Baltimore, Baltimore, MD, United States; <sup>3</sup>Center to Advance Chronic Pain Research, University of Maryland Baltimore, Baltimore, MD, United States; <sup>4</sup>Department of Psychology, University of Toronto, Toronto, ON, Canada; <sup>5</sup>Krembil Brain Institute, University Health Network, Toronto, ON, Canada; [georgia.hadjisi@mail.utoronto.ca](mailto:georgia.hadjisi@mail.utoronto.ca)

## Poster I - 08

### Active and latent representation in working-memory-guided behaviour

Paul Muhle-Karbe, Nicholas Myers, Mark Stokes

University of Oxford, United Kingdom; [paul.muhle-karbe@psy.ox.ac.uk](mailto:paul.muhle-karbe@psy.ox.ac.uk)

## Poster I - 09

### Can willingness to exert cognitive effort predict reflective reasoning?

Martin Jensen Mækelæ, Kristoffer Klevjer, Gerit Pfuhl

University of Tromsø – The Arctic University of Norway UIT, Norway; [mmal72@post.uit.no](mailto:mmal72@post.uit.no)

## Poster I - 10

### Brain network dynamics during spontaneous strategy shifts and incremental task optimization

Michele Allegra<sup>1</sup>, Shima Seyed-Allaei<sup>2</sup>, Nicolas W. Schuck<sup>3</sup>, Daniele Amati<sup>4</sup>, Alessandro Laio<sup>4</sup>, Carlo Reverberi<sup>5</sup>

<sup>1</sup>Institut de Neurosciences de la Timone, Aix Marseille Université, CNRS, Marseille, France; <sup>2</sup>School of Cognitive Sciences, Institute for Research in Fundamental Sciences, Tehran, Iran; <sup>3</sup>Max Planck Research Group NeuroCode, Max Planck Institute for Human Development, Berlin, Germany; <sup>4</sup>Scuola Internazionale Superiore di Studi Avanzati, Trieste, Trieste, Italy; <sup>5</sup>Università Milano-Bicocca and NeuroMI, Italy; [carlo.reverberi@unimib.it](mailto:carlo.reverberi@unimib.it)

**Poster I - 11**

**Adaptive risk-taking with endogenous imprecision in real-time**

**Simon Ciranka, Bernhard Spitzer**

Max Planck Institute for Human Development, Germany; [Ciranka@mpib-berlin.mpg.de](mailto:Ciranka@mpib-berlin.mpg.de)

**Poster I - 12**

**COGNITIVE EFFORT MODULATES FRONTAL EFFECTIVE CONNECTIONS: A DYNAMIC CAUSAL MODELING STUDY ON MACAQUE MONKEYS**

**Katharina Wegner<sup>1</sup>, Charlie Wilson<sup>2</sup>, Emmanuel Procyk<sup>2</sup>, Karl Friston<sup>3</sup>, Daniele Marinazzo<sup>1</sup>**

<sup>1</sup>Ghent University; <sup>2</sup>INSERM U1028 Centre de Recherche en Neurosciences de Lyon;

<sup>3</sup>UCL Wellcome Centre for Human Neuroimaging; [katharina.wegner@ugent.be](mailto:katharina.wegner@ugent.be)

**Poster I - 13**

**Common electrophysiological biomarkers from cross-species paradigms**

**James F Cavanagh<sup>1</sup>, Greg Light<sup>2</sup>, Jared Young<sup>2</sup>, Jonathan Brigman<sup>1</sup>**

<sup>1</sup>University of New Mexico, United States of America; <sup>2</sup>University of San Diego, United States of America; [jim.f.cav@gmail.com](mailto:jim.f.cav@gmail.com)

**Poster I - 14**

**Complementing effects of reactive and proactive control on the congruency sequence effect**

**Qian Yang, Gilles Pourtois**

Department of Experimental Clinical and Health Psychology, Ghent University, Belgium; [qianyang.yang@ugent.be](mailto:qianyang.yang@ugent.be)

**Poster I - 15**

**Deciding how to decide: Discovery of and arbitration between cognitive strategies**

**Anika T. Löwe<sup>1</sup>, Paul S. Muhle-Karbe<sup>2</sup>, Christopher Summerfield<sup>2</sup>, Nicolas W. Schuck<sup>1,3</sup>**

<sup>1</sup>Max Planck Research Group NeuroCode, Max Planck Institute for Human Development, Lentzeallee 94, 14195 Berlin; <sup>2</sup>Department of Experimental Psychology, University of Oxford, Walton Street, Oxford OX2 6AE, UK; <sup>3</sup>Max Planck UCL Centre for Computational Psychiatry and Ageing Research, Lentzeallee 94, 14195 Berlin; [anika-loewe@web.de](mailto:anika-loewe@web.de)

## Poster I - 16

### **Dissociable neural mechanisms of opening vs. closing the gate to working memory**

**Gal Nir-Cohen**<sup>1,3</sup>, **Yoav Kessler**<sup>2,3</sup>, **Tobias Egner**<sup>4</sup>

<sup>1</sup>Department of Cognitive and Brain Sciences, Ben-Gurion University of the Negev; <sup>2</sup>Department of Psychology, Ben-Gurion University of the Negev; <sup>3</sup>Zlotowski Center for Neuroscience, Ben-Gurion University of the Negev; <sup>4</sup>Center for Cognitive Neuroscience, Department of Psychology and Neuroscience, Duke University; [gal.nir88@gmail.com](mailto:gal.nir88@gmail.com)

## Poster I - 17

### **Electroencephalographic Correlates of Temporal Bayesian Belief Updating and Surprise**

**Antonino Visalli**<sup>1</sup>, **Mariagrazia Capizzi**<sup>2</sup>, **Ettore Ambrosini**<sup>1,3</sup>, **Bruno Kopp**<sup>4</sup>, **Antonino Vallesi**<sup>3,5</sup>

<sup>1</sup>Department of General Psychology, University of Padova, Italy; <sup>2</sup>Department of Neuroscience, University of Padova, Italy; <sup>3</sup>Department of Neuroscience & Padova Neuroscience Center, University of Padova, Italy; <sup>4</sup>Department of Neurology, Hannover Medical School, Germany; <sup>5</sup>Brain Imaging and Neural Dynamics Research Group, IRCCS San Camillo Hospital, Venice, Italy; [antonino.visalli@unipd.it](mailto:antonino.visalli@unipd.it)

## Poster I - 18

### **Effects of positive and negative feedback on Voluntary Task Switching**

**Markus Spitzer**, **David Dignath**

University of Freiburg, Germany; [markus.spitzer@psychologie.uni-freiburg.de](mailto:markus.spitzer@psychologie.uni-freiburg.de)

## Poster I - 19

### **Evidence for a cost of cognitive control effect on foraging behavior**

**Laura Bustamante**<sup>1</sup>, **Allison Burton**<sup>1</sup>, **Amitai Shenhav**<sup>2</sup>, **Nathaniel Daw**<sup>1</sup>, **Jonathan Cohen**<sup>1</sup>

<sup>1</sup>Princeton University, United States of America; <sup>2</sup>Brown University, United States of America; [lauraab@princeton.edu](mailto:lauraab@princeton.edu)

## Poster I - 20

### **Dynamic integration of forward planning and heuristic preferences during multiple goal pursuit**

**Florian Ott**, **Dimitrije Markovic**, **Alexander Strobel**, **Stefan Kiebel**

TU Dresden, Germany; [florian.ott@tu-dresden.de](mailto:florian.ott@tu-dresden.de)

**Poster I - 21**

**Exploring the underlying computations and functional interactions of macaque prefrontal areas in rule-based decision making: Recording simultaneously from multiple chronically implanted multi-electrode arrays**

**Juan M Galeazzi, Erica A Boschin, Martin O'Neill, Matthew Ainsworth, Mark J Buckley**

Oxford University, United Kingdom; [buckley@psy.ox.ac.uk](mailto:buckley@psy.ox.ac.uk)

**Poster I - 22**

**Synthesizing a neural measure of regulation of craving from single-trial EEG**

**Raoul Dieterich, Tanja Endrass**

Technische Universität Dresden, Germany; [raoul.dieterich@tu-dresden.de](mailto:raoul.dieterich@tu-dresden.de)

**Poster I - 23**

**Habits - Outcome Gets You Started, Control Keeps You Going**

**Orit Nafcha, Baruch Eitam**

University of Haifa, Israel; [ornafcha@gmail.com](mailto:ornafcha@gmail.com)

**Poster I - 24**

**Implicit reward associations impact face perception and cognition: Time-resolved evidence from event-related brain potentials and pupil dilations**

**Annekathrin Schacht<sup>1,3</sup>, Wiebke Hammerschmidt<sup>1,3</sup>, Igor Kagan<sup>2,3</sup>, Louisa Kulke<sup>1,3</sup>**

<sup>1</sup>University of Goettingen, Institute of Psychology, Goettingen, Germany; <sup>2</sup>German Primate Center, Goettingen, Germany; <sup>3</sup>Leibniz ScienceCampus Primate Cognition, Goettingen, Germany; [aschach@uni-goettingen.de](mailto:aschach@uni-goettingen.de)

**Poster I - 25**

**Increasing reward prospect promotes cognitive flexibility: More evidence from task switching with three tasks**

**Kerstin Fröber, Gesine Dreisbach**

University of Regensburg, Germany; [kerstin.froeber@ur.de](mailto:kerstin.froeber@ur.de)

**Poster 1 - 26**

**Influence of Prediction Errors on Memory Encoding and Connectivity between Frontomedial and medio-temporal cortex**

**Joshua Kah Meng Khoo<sup>1</sup>, Adrian Fischer<sup>2</sup>, Jan Derrfuss<sup>1</sup>, Claudia Danielmeier<sup>1</sup>**

<sup>1</sup>University of Nottingham, United Kingdom; <sup>2</sup>Freie Universität Berlin, Germany; [lpxkmkh@nottingham.ac.uk](mailto:lpxkmkh@nottingham.ac.uk)

**Poster 1 - 27**

**Learned low-dimensional representations support novel generalisation**

**Stephanie Nelli, Andrew Saxe, Christopher Summerfield**

University of Oxford, United Kingdom; [stephanie.nelli@psy.ox.ac.uk](mailto:stephanie.nelli@psy.ox.ac.uk)

**Poster 1 - 28**

**Motivating Without ‘Rewards’: Intact Motivation From Being Effective in Major Depression**

**Shirel Bakbani-Elkayam, Tohar Dolev-Amit, Eitan Hemed, Sigal Zilcha-Mano, Baruch Eitam**

University of Haifa, Israel; [shirelbelkayam@gmail.com](mailto:shirelbelkayam@gmail.com)

**Poster 1 - 29**

**Neural dynamics underlying the integration of reward and efficacy during evaluation and motivation of cognitive control**

**Romy Frömer<sup>1</sup>, Hause Lin<sup>2</sup>, Carolyn Dean Wolf<sup>1</sup>, Michael Inzlicht<sup>2</sup>, Amitai Shenhav<sup>1</sup>**

<sup>1</sup>Brown University, United States of America; <sup>2</sup>University of Toronto, Canada; [romy\\_fromer@brown.edu](mailto:romy_fromer@brown.edu)

**Poster 1 - 30**

**Neural Mechanisms of Motivational Incentive Integration and Cognitive Control**

**Debbie Yee, Todd Braver**

Washington University in St. Louis, United States of America; [debbieyee@wustl.edu](mailto:debbieyee@wustl.edu)

### Poster I - 31

#### **Outcome contingency selectively affects the neural coding of outcomes but not of tasks**

**David Wisniewski<sup>1</sup>, Birte Forstmann<sup>2</sup>, Marcel Brass<sup>1</sup>**

<sup>1</sup>Universiteit Gent, Belgium; <sup>2</sup>Universiteit van Amsterdam, Netherlands;  
[david.wisniewski@ugent.be](mailto:david.wisniewski@ugent.be)

### Poster I - 32

#### **Self-control signals in medial frontal cortex of monkeys during a temptation task**

**Erik Emeric, Jaewon Hwang, Veit Stuphorn**

Johns Hopkins University, United States of America; [veit@jhu.edu](mailto:veit@jhu.edu)

### Poster I - 33

#### **The food macronutrient composition impacts human risk decision**

**Lu Liu<sup>1,2</sup>, Sabrina Strang<sup>3</sup>, Sergio Oroz Artigas<sup>3</sup>, Anja Ulrich<sup>3</sup>, Jeremy Tardu<sup>3</sup>, Berthold Koletzko<sup>4</sup>, Sebastian M Schmid<sup>2,3</sup>, Soyoung Q Park<sup>1,2,5</sup>**

<sup>1</sup>Decision Neuroscience and Nutrition, German Institute of Human Nutrition (DIfE), Germany; <sup>2</sup>German Center for Diabetes Research (DZD), 85764, Neuherberg, Germany; <sup>3</sup>Department of Psychology I, University of Lübeck, 23564 Lübeck, Germany; <sup>4</sup>Dr. von Hauner Children's Hospital, University of Munich Medical Center, Ludwig-Maximilians-Universität Munich, 80337 Munich, Germany; <sup>5</sup>Charité-Universitätsmedizin Berlin, Corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Neuroscience Research Center, 10117, Berlin, Germany; [Lu.Liu@dife.de](mailto:Lu.Liu@dife.de)

### Poster I - 34

#### **The influence of dopamine on implicit and explicit food choice**

**Elliot Clayton Brown<sup>1,5</sup>, Apoorva Rajiv Madipakkam<sup>2</sup>, Astrid Hermsteiner<sup>2</sup>, Thomas Munte<sup>3</sup>, Soyoung Q. Park<sup>1,4,5</sup>**

<sup>1</sup>Department of Decision Neuroscience and Nutrition, German Institute of Human Nutrition Research, 14558 Potsdam-Rehbruecke, Germany; <sup>2</sup>Institute of Psychology, University of Lübeck, 23562 Lübeck, Germany; <sup>3</sup>Department of Neurology, Universitätsklinikum Schleswig Holstein, Campus Lübeck, 23562 Lübeck, Germany; <sup>4</sup>Charité-Universitätsmedizin Berlin, Corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Neuroscience Research Center, 10117, Berlin, Germany; <sup>5</sup>German Center for Diabetes Research (DZD), 85764, Neuherberg, Germany; [elliott.c.brown@gmail.com](mailto:elliott.c.brown@gmail.com)

### Poster I - 35

#### **Working memory gating for perception and long-term memory: Opening as a serial and closing as a parallel process**

**Sam Verschooren**<sup>1,3</sup>, Yoav Kessler<sup>2</sup>, Tobias Egner<sup>3</sup>

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Ben-Gurion University of the Negev, Israel; <sup>3</sup>Duke University, North Carolina, USA; [sam.verschooren@ugent.be](mailto:sam.verschooren@ugent.be)

### Poster I - 36

#### **When conflict brings pleasure: examining the necessary conditions under which incongruent stimuli are evaluated as positive**

**Ivan Ivanchei**<sup>1</sup>, Senne Braem<sup>2</sup>, Luc Vermeulen<sup>1</sup>, Wim Notebaert<sup>1</sup>

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Vrije Universiteit Brussel (VUB), Belgium; [ivan.ivanchei@ugent.be](mailto:ivan.ivanchei@ugent.be)

### Poster I - 37

#### **The specific role of contextual cues in the context-specific regulation of cognitive control**

**Franziska M. Korb**<sup>1</sup>, Joseph A. King<sup>2</sup>, Caroline Surrey<sup>3</sup>, Rico Fischer<sup>4</sup>

<sup>1</sup>Department of General Psychology, Faculty of Psychology, TU Dresden, Germany; <sup>2</sup>Division of Psychological and Social Medicine and Developmental Neuroscience, Faculty of Medicine, TU Dresden, Germany; <sup>3</sup>Department of Psychological Methods and Cognitive Modelling, Faculty of Psychology, TU Dresden, Germany; <sup>4</sup>Chair of General Psychology, Institute of Psychology, University of Greifswald, Germany; [franziska.korb@tu-dresden.de](mailto:franziska.korb@tu-dresden.de)

### Poster I - 38

#### **The role of the opioid system in decision making and cognitive control**

**Henk van Steenbergen**<sup>1,2,5</sup>, Marie Eikemo<sup>3,4,5</sup>, Siri Leknes<sup>4,5</sup>

<sup>1</sup>Cognitive Psychology Unit, Institute of Psychology, Leiden University, The Netherlands; <sup>2</sup>Leiden Institute for Brain and Cognition, The Netherlands; <sup>3</sup>Department of Diagnostic Physics, Oslo University Hospital, Norway; <sup>4</sup>Department of Psychology, University of Oslo, Norway; <sup>5</sup>Henk van Steenbergen and Marie Eikemo contributed equally to this work; [HvanSteenbergen@fsw.leidenuniv.nl](mailto:HvanSteenbergen@fsw.leidenuniv.nl)

### Poster I - 39

#### **Value spillover: How contextually irrelevant values influence choice and vmPFC activity in humans**

**Nir Moneta**<sup>1,2</sup>, Hauke R. Heekeren<sup>2</sup>, Nicolas W. Schuck<sup>1,3</sup>

<sup>1</sup>Max Planck Research Group NeuroCode, Max Planck Institute for Human Development; <sup>2</sup>Department of Education and Psychology, Freie Universitaet Berlin; <sup>3</sup>Max Planck UCL Centre for Computational Psychiatry and Ageing Research; [moneta@mpib-berlin.mpg.de](mailto:moneta@mpib-berlin.mpg.de)

## POSTER SESSION II

TUESDAY, SEPTEMBER 17, 12:40 – 14:00

### Poster II - 01

#### **A combined EEG-EMG-TMS study on the modulation of response inhibition by proactive control**

**Liisa Raud<sup>1</sup>, René Huster<sup>1</sup>, Ludovica Labruna<sup>2</sup>, Mari Messel<sup>1</sup>, Richard Ivry<sup>2</sup>, Ian Greenhouse<sup>3</sup>**

<sup>1</sup>University of Oslo; <sup>2</sup>University of California, Berkeley; <sup>3</sup>University of Oregon;  
[liisa.raud@psykologi.uio.no](mailto:liisa.raud@psykologi.uio.no)

### Poster II - 02

#### **Relations between social anxiety and cognitive control dynamics while under social observation**

**George A Buzzell, Sonya V. Troller-Renfree, Tyson V. Barker, Lindsay C. Bowman, Santiago Morales, Edward M. Bernat, Heather A. Henderson, Daniel S. Pine, Nathan A. Fox**

University of Maryland, College Park, United States of America; [gbuzzell@umd.edu](mailto:gbuzzell@umd.edu)

### Poster II - 03

#### **Targeting the human habenula in decisions on approach and avoidance in fMRI**

**Christian Kaiser<sup>1</sup>, Yan Arnold<sup>2</sup>, Oliver Speck<sup>2,3</sup>, Markus Ullsperger<sup>1,3</sup>**

<sup>1</sup>Otto-von-Guericke University, Institute of Psychology, Magdeburg, Germany; <sup>2</sup>Otto-von-Guericke University, Institute of Physics, Magdeburg, Germany; <sup>3</sup>Center for Behavioral Brain Science, Magdeburg; [christian.kaiser@ovgu.de](mailto:christian.kaiser@ovgu.de)

### Poster II - 04

#### **A basal forebrain-cingulate circuit in macaques decides it is time to act**

**Nima Khalighinejad<sup>1</sup>, Alessandro Bongioanni<sup>1</sup>, Lennart Verhagen<sup>1</sup>, Davide Folloni<sup>1</sup>, David Attali<sup>2</sup>, Jean-Francois Aubry<sup>2</sup>, Jerome Sallet<sup>1</sup>, Matthew Rushworth<sup>1</sup>**

<sup>1</sup>Wellcome Centre for Integrative Neuroimaging, Department of Experimental Psychology, University of Oxford, Oxford, UK; <sup>2</sup>Physics for Medicine Paris, Inserm, ESPCI Paris, CNRS, PSL Research University, Paris, France;  
[nima.khalighinejad@psy.ox.ac.uk](mailto:nima.khalighinejad@psy.ox.ac.uk)

## Poster II - 05

### **A Multi-Level Reinforcement-Learning Model of Wisconsin Card Sorting Test Performance**

**Alexander Steinke<sup>1</sup>, Florian Lange<sup>2</sup>, Bruno Kopp<sup>1</sup>**

<sup>1</sup>Hannover Medical School, Germany; <sup>2</sup>KU Leuven, Belgium; [steinke.alexander@mh-hannover.de](mailto:steinke.alexander@mh-hannover.de)

## Poster II - 06

### **A new method to manipulate flow.**

**Augustin Joëssel, Mathilde Magontier, Swann Pichon, Daphné Bavelier**

Faculté de Psychologie et Sciences de L'Education (FPSE), Université de Genève;  
[augustin.joessel@unige.ch](mailto:augustin.joessel@unige.ch)

## Poster II - 07

### **Anterior Prefrontal Cortex Maintains Feature Information During Reallocation of Attention Independent of Visual Awareness**

**Lasse Güldener<sup>1</sup>, Antonia Jüllig<sup>1</sup>, David Soto<sup>2,3</sup>, Stefan Pollmann<sup>1,4</sup>**

<sup>1</sup>Otto-von-Guericke University, Germany; <sup>2</sup>Basque Center on cognition, Brain and Language (BCBL), 20009 Donostia, Spain.; <sup>3</sup>Ikerbasque, Basque Foundation for Science, Bilbao, Spain.;  
<sup>4</sup>Center of Behavioral Brain Science, Magdeburg, Germany; [lasse.gueldener@gmail.com](mailto:lasse.gueldener@gmail.com)

## Poster II - 08

### **Alcohol-related cues modulate cognitive control functions in patients with alcohol use disorder**

**Anna Berezina<sup>1,2</sup>, Anna Trusova<sup>1,2</sup>, Anton Gvozdetckii<sup>1</sup>, Svetlana Klimanova<sup>1,2</sup>**

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## Poster II - 09

### **Catecholaminergic modulation of reversal learning**

**Mojtaba Rostami Kandroodi<sup>1,2</sup>, Monja Froboese<sup>2</sup>, Jennifer Swart<sup>2</sup>, Jennifer Cook<sup>3</sup>, Dirk Geurts<sup>2,4</sup>, Abdol-Hossein Vahabie<sup>5</sup>, Majid Nili Ahmabadi<sup>1</sup>, Roshan Cools<sup>2,4</sup>, Hanneke den Ouden<sup>2</sup>**

<sup>1</sup>School of Electrical and Computer Engineering, University of Tehran, Tehran, Iran; <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, The Netherlands; <sup>3</sup>School of Psychology, University of Birmingham, Birmingham, United Kingdom; <sup>4</sup>Department of Psychiatry, Radboud University Medical Centre, Nijmegen, The Netherlands; <sup>5</sup>School of Cognitive Sciences, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran;  
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## Poster II - 10

### **Cognitive Overcontrol as a Trait Marker in Anorexia Nervosa? Aberrant Task- and Response-Set Switching in Remitted Patients**

**Joseph A. King<sup>1</sup>, Franziska M. Korb<sup>2</sup>, Richard Vettermann<sup>1</sup>, Franziska Ritschel<sup>1</sup>, Tobias Egner<sup>3</sup>, Stefan Ehrlich<sup>1</sup>**

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## Poster II - 11

### **Cognitive modelling reveals distinct electrophysiological markers of decision confidence and error monitoring**

**Manuel Rausch, Michael Zehetleitner, Marco Steinhauser, Martin E. Maier**

Katholische Universität Eichstätt-Ingolstadt, Germany; [manuel.rausch@ku.de](mailto:manuel.rausch@ku.de)

## Poster II - 12

### **Computational modeling of cognitive processes underlying approach decisions in non-human primates and patients with major depressive disorder – a translational approach.**

**Mads Lund Pedersen<sup>1,2</sup>, Maria Ironside<sup>3,4</sup>, Ken I. Amemori<sup>5,6</sup>, Callie L. McGrath<sup>3</sup>, Min Su Kang<sup>3</sup>, Ann M. Graybiel<sup>6</sup>, Darin D. Dougherty<sup>4</sup>, Diego A. Pizzagalli<sup>3,4</sup>, Michael J. Frank<sup>1,7</sup>**

<sup>1</sup>Brown University, United States of America; <sup>2</sup>Department of Psychology, University of Oslo; <sup>3</sup>Center for Depression, Anxiety and Stress Research, McLean Hospital, USA; <sup>4</sup>Department of Psychiatry, Harvard Medical School, USA; <sup>5</sup>The Hakubi Center for Advanced Research and Primate Research Institute, Kyoto University, Japan; <sup>6</sup>McGovern Institute for Brain Research and Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, USA; <sup>7</sup>Robert J. and Nancy D. Carney Institute for Brain Science, Brown University, USA; [madslupe@gmail.com](mailto:madslupe@gmail.com)

## Poster II - 13

### **Coupling of visual gamma to brain networks during colour discrimination task - a simultaneous EEG-fMRI study**

**Ewa Beldzik, Aleksandra Domagalik, Anna Beres, Tadeusz Marek**

Jagiellonian University, Poland; [ewa.beldzik@gmail.com](mailto:ewa.beldzik@gmail.com)

## Poster II - 14

### **Conditioning the Speed-Accuracy Trade-Off in Perceptual Decision Making**

**Jonas Simoens<sup>1</sup>, Tom Verguts<sup>1</sup>, Senne Braem<sup>2</sup>**

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Vrije Universiteit Brussel, Belgium; [jonas.simoens@ugent.be](mailto:jonas.simoens@ugent.be)

## Poster II - 15

### **Diet-dependent effects of amisulpride on reinforcement learning and working memory in humans: a study proposal**

**Lieneke Katharina Janssen<sup>1,2</sup>, Hendrik Hartmann<sup>2,3</sup>, Annette Horstmann<sup>1,2,3,4</sup>**

<sup>1</sup>Integrated Research and Treatment Center Adiposity Diseases, Leipzig University Medical Center, Leipzig, Germany; <sup>2</sup>Department of Neurology, MPI for Cognitive and Human Brain Sciences, Leipzig, Germany; <sup>3</sup>Collaborative Research Centre 1052 “Obesity Mechanisms”, Leipzig University Medical Center, Leipzig, Germany; <sup>4</sup>Department of Psychology and Logopedics, Faculty of Medicine, University of Helsinki, Helsinki, Finland; [janssen@cbs.mpg.de](mailto:janssen@cbs.mpg.de)

## Poster II - 16

### **Error-related brain activity predicts real-life self-control failures**

**Rebecca Overmeyer<sup>1</sup>, Julia Berghäuser<sup>1</sup>, Verena Wüllhorst<sup>1</sup>, Max Wolff<sup>1</sup>, Thomas Goschke<sup>1,2</sup>, Tanja Endrass<sup>1</sup>**

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## Poster II - 17

### **Error positivity and beta-band alterations in obsessive-compulsive disorder during associative learning**

**Nuria Doñamayor<sup>1,2</sup>, Jürgen Lambrecht<sup>2,3</sup>, Marcus Heldmann<sup>2,4</sup>, Manuel Römisch<sup>2</sup>, Jakob Dinani<sup>2</sup>, Thomas F. Münte<sup>2,4</sup>, Bartosz Zurowski<sup>5</sup>**

<sup>1</sup>Department of Psychiatry and Psychotherapy, Charité - Universitätsmedizin Berlin, Germany; <sup>2</sup>Department of Neurology, Universität zu Lübeck, Germany; <sup>3</sup>Neurozentrum, Schön Klinik Hamburg Eilbek, Germany; <sup>4</sup>Institute of Psychology II, Universität zu Lübeck, Germany; <sup>5</sup>Department of Psychiatry, Universität zu Lübeck, Germany; [nuria.donamayor@charite.de](mailto:nuria.donamayor@charite.de)

## Poster II - 18

### **Effects of methylphenidate on the motivation of flexible and stable cognitive control**

**Monja I Froboese<sup>1</sup>, Jennifer C Swart<sup>1</sup>, Jennifer L Cook<sup>2</sup>, Dirk EM Geurts<sup>3</sup>, Sean J Fallon<sup>4</sup>, Hanneke EM den Ouden<sup>1</sup>, Roshan Cools<sup>1,3</sup>**

<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, The Netherlands.; <sup>2</sup>School of Psychology, University of Birmingham, Edgbaston, Birmingham, United Kingdom; <sup>3</sup>Dept psychiatry, Radboud University Medical Centre, Nijmegen, The Netherlands.; <sup>4</sup>Bristol Medical School: Population Health Sciences, University of Bristol, UK; [m.i.froboese@gmail.com](mailto:m.i.froboese@gmail.com)

## Poster II - 19

### **Evaluative feedback processing is influenced by goal relevance in a time estimation task**

**Mario Carlo Severo<sup>1</sup>, Katharina Paul<sup>1</sup>, Wioleta Walentowska<sup>2,1</sup>, Agnes Moors<sup>3</sup>, Gilles Pourtois<sup>1</sup>**

<sup>1</sup>Cognitive & Affective Psychophysiology Laboratory, Department of Experimental Clinical and Health Psychology, Ghent University, Belgium; <sup>2</sup>Psychophysiology Laboratory, Institute of Psychology, Jagiellonian University in Krakow, Poland; <sup>3</sup>Research Group of Quantitative Psychology and Individual Differences, Center for Social and Cultural Psychology, KU Leuven, Belgium; [mariocarlo.severo@ugent.be](mailto:mariocarlo.severo@ugent.be)

## Poster II - 20

### **Dorsal ACC drives state learning in high trait anxiety**

**Ondrej Zika<sup>1,2,3</sup>, Rafal Bogacz<sup>1</sup>, Katja Wiech<sup>1,2</sup>**

<sup>1</sup>Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford, Headley Way, OX39DU, United Kingdom; <sup>2</sup>Wellcome Center for Integrative Neuroimaging, John Radcliffe Hospital, University of Oxford, Headley Way, OX39DU, United Kingdom; <sup>3</sup>Neurocode Group, Max Planck Institute for Human Development, Lentzealle 94, Berlin, 14195; [zika.ondra@seznam.cz](mailto:zika.ondra@seznam.cz)

## Poster II - 21

### **Flexibility of Error-Monitoring in Obsessive-Compulsive Disorder under Speed and Accuracy Instructions**

**Anja Riesel<sup>1,2</sup>, Norbert Kathmann<sup>2</sup>, Julia Klawohn<sup>2</sup>**

<sup>1</sup>Universität Hamburg, Germany; <sup>2</sup>Humboldt-Universität zu Berlin, Germany; [anja.riesel@gmail.com](mailto:anja.riesel@gmail.com)

## Poster II - 22

### **Dopaminergic effects on reinforcement learning and brain signal variability in old age**

**Alexander Skowron<sup>1,2</sup>, Douglas Garrett<sup>2,3</sup>**

<sup>1</sup>Freie Universität Berlin, Germany; <sup>2</sup>Max Planck Institute for Human Development, Germany; <sup>3</sup>Max Planck UCL Centre for Computational Psychiatry and Ageing Research, Germany/United Kingdom; [skowron@mpib-berlin.mpg.de](mailto:skowron@mpib-berlin.mpg.de)

## Poster II - 23

### **Is a planning task more demanding than a working memory task?**

**Ilona Pritschke, Thea Radüntz**

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**Poster II - 24**

**Learning concepts in computer programming**

**Sara L Bengtsson, Andreas Lidström**

University of East Anglia, United Kingdom; [s.bengtsson@uea.ac.uk](mailto:s.bengtsson@uea.ac.uk)

**Poster II - 25**

**Learning whether control matters: neural dynamics underlying the updating of expectations and control allocation in response to changes in performance efficacy**

**Ivan Grahek<sup>1</sup>, Romy Frömer<sup>2</sup>, Amitai Shenhav<sup>2</sup>**

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Brown University, USA; [ivan.grahek@ugent.be](mailto:ivan.grahek@ugent.be)

**Poster II - 26**

**Lifespan age differences in the regulation of learning during sequential decisions under uncertainty**

**Rasmus Bruckner<sup>1,2</sup>, Matthew R. Nassar<sup>3</sup>, Shu-Chen Li<sup>4</sup>, Ben Eppinger<sup>4,5</sup>**

<sup>1</sup>Freie Universität Berlin, Berlin, Germany; <sup>2</sup>Max Planck Institute for Human Development, Berlin, Germany; <sup>3</sup>Brown University, Providence, US; <sup>4</sup>Technische Universität Dresden, Dresden, Germany; <sup>5</sup>Concordia University, Montreal, Canada; [rasmusbr@zedat.fu-berlin.de](mailto:rasmusbr@zedat.fu-berlin.de)

**Poster II - 27**

**Mistakes that matter: An event-related potential study on obsessive-compulsive traits and social performance monitoring in different responsibility contexts**

**Myrthe Jansen<sup>1,2</sup>, Ellen R. A. De Bruijn<sup>1,2</sup>**

<sup>1</sup>Leiden University, The Netherlands; <sup>2</sup>Leiden Institute for Brain and Cognition, The Netherlands; [m.jansen@fsw.leidenuniv.nl](mailto:m.jansen@fsw.leidenuniv.nl)

**Poster II - 28**

**Multilevel relationships between loneliness and trust**

**Gabriele Bellucci<sup>1,2</sup>, Soyoung Park<sup>1,2,3,4</sup>**

<sup>1</sup>Department of Psychology I, University of Lübeck, Germany; <sup>2</sup>Department of Decision Neuroscience and Nutrition, German Institute of Human Nutrition (DIfE), Potsdam-Rehbruecke, Germany; <sup>3</sup>Charité-Universitätsmedizin Berlin, Corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Neuroscience Research Center, 10117, Berlin, Germany; <sup>4</sup>German Center for Diabetes Research (DZD), 85764,

**Poster II - 29**

**Parametric Control of Attention**

**Harrison Ritz<sup>1</sup>, Amitai Shenhav<sup>1,2</sup>**

<sup>1</sup>Cognitive, Linguistic, and Psychological Sciences, Brown University; <sup>2</sup>Carney Institute for Brain Science, Brown University; [hritz@brown.edu](mailto:hritz@brown.edu)

**Poster II - 30**

**Preserved implicit metamemory and search investment in Schizophrenia**

**Thea Simensen<sup>1</sup>, Wenche ten Velden Hegelstad<sup>2</sup>, Lina Livsdatter<sup>3</sup>, Gerit Pfuhl<sup>3</sup>**

<sup>1</sup>NTNU, Trondheim, Norway; <sup>2</sup>SUS, Stavanger, Norway; <sup>3</sup>UiT The Arctic University of Norway, Norway; [gerit.pfuhl@uit.no](mailto:gerit.pfuhl@uit.no)

**Poster II - 31**

**Shared Neural Representations of Conflict and Affect**

**Luc Vermeylen<sup>1</sup>, David Wisniewski<sup>1</sup>, Carlos González-García<sup>1</sup>, Vincent Hoofs<sup>1</sup>, Wim Notebaert<sup>1</sup>, Senne Braem<sup>2</sup>**

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**Poster II - 32**

**Social evidence accumulation in medial frontal cortex**

**Marius Braunsdorf<sup>1</sup>, Nils Kolling<sup>2</sup>, Suhas Vijayakumar<sup>1</sup>, Ivan Toni<sup>1</sup>, Rogier Mars<sup>1,3</sup>**

<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Netherlands; <sup>2</sup>Wellcome Centre for Integrative Neuroimaging, Oxford Centre for Human Brain Activity, Department of Psychiatry, University of Oxford, UK; <sup>3</sup>Wellcome Centre for Integrative Neuroimaging, Centre for Functional MRI of the Brain (FMRIB), Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford, UK; [m.braunsdorf@donders.ru.nl](mailto:m.braunsdorf@donders.ru.nl)

**Poster II - 33**

**Stimulus value and prediction error encoding in a cooperative and competitive social context**

**Rebecca Burnside, Markus Ullsperger**

OVGU Magdeburg, Germany; [rebecca.burnside@ovgu.de](mailto:rebecca.burnside@ovgu.de)

**Poster II - 34**

**Striatal Dopamine and Decreased Prediction Error Coding in Unmedicated Schizophrenia Patients**

**Teresa Katthagen<sup>1</sup>, Jakob Kaminski<sup>1,2</sup>, Andreas Heinz<sup>1</sup>, Ralph Buchert<sup>3</sup>, Florian Schlagenhaut<sup>1</sup>**

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**Poster II - 35**

**The experience-description gap in the human brain**

**Fabien Cerrotti, Vasilisa Skvortsova, Valentin Wyart, Stefano Palminteri**

Ecole Normale Supérieure, France; [cerrotti.fabien@gmail.com](mailto:cerrotti.fabien@gmail.com)

**Poster II - 36**

**The role of the opioid and dopaminergic system in applying cognitive control in value-based decision making**

**Nace Mikus<sup>1</sup>, Sebastian Korb<sup>1</sup>, Giorgia Silani<sup>1</sup>, Chris Mathys<sup>2</sup>, Claus Lamm<sup>1</sup>**

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**Poster II - 37**

**Tracking Motivational Biases and Their Suppression in Time and Space**

**Johannes Algermissen<sup>1</sup>, Jennifer C. Swart<sup>1</sup>, Emma J. van Dijk<sup>1</sup>, René Scheeringa<sup>1</sup>, Roshan Cools<sup>1,2</sup>, Hanneke E. M. den Ouden<sup>1</sup>**

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**Poster II - 38**

**Valence biases in the metacontrol of decision-making strategies in adolescents and adults**

**Florian Bolenz<sup>1</sup>, Ben Eppinger<sup>1,2</sup>**

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## POSTER SESSION III

WEDNESDAY, SEPTEMBER 18, 13:30 – 14:50

### Poster III - 01

#### **Separate ACC single unit ensembles encode conflict versus errors in a novel rodent partial error paradigm**

**Ryo Iwai<sup>1</sup>, Ioannis S Zouridis<sup>1</sup>, Nikos K Logothetis<sup>1</sup>, Nelson K Totah<sup>1,2,3</sup>**

<sup>1</sup>Max Planck Institute for Biological Cybernetics, Germany; <sup>2</sup>Helsinki Institute of Life Science; <sup>3</sup>School of Pharmacy, University of Helsinki; [ryo.iwai@tuebingen.mpg.de](mailto:ryo.iwai@tuebingen.mpg.de)

### Poster III - 02

#### **Disentangling the link between Mindfulness and Error Awareness**

**Hans Kirschner<sup>1,2</sup>, Thorsten Barnhofer<sup>3</sup>, Markus Ullsperger<sup>1,4</sup>**

<sup>1</sup>Otto-von-Guericke University, Institute of Psychology, Magdeburg, Germany; <sup>2</sup>University of Exeter, School of Psychology, Exeter EX4 4QG, U.K.; <sup>3</sup>University of Surrey, School of Psychology, Surrey GU2 7XH, U.K.; <sup>4</sup>Center for Behavioral Brain Sciences, Magdeburg, Germany; [hans.kirschner@ovgu.de](mailto:hans.kirschner@ovgu.de)

### Poster III - 03

#### **A role for trait empathy in the processing of unexpected observed actions**

**Christine Albrecht, Christian Bellebaum**

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### Poster III - 04

#### **Capturing the evolution of decisions from uncertain visual images to uncertain actions**

**Alessandro Tomassini<sup>1</sup>, Darren Price<sup>1</sup>, Jiaxiang Zhang<sup>2</sup>, James Rowe<sup>1,3</sup>**

<sup>1</sup>MRC Cognition and Brain Sciences Unit, University of Cambridge, United Kingdom; <sup>2</sup>School of Psychology, University of Cardiff, United Kingdom; <sup>3</sup>Department of Clinical Neurosciences, University of Cambridge, United Kingdom; [alessandro.tomassini@mrc-cbu.cam.ac.uk](mailto:alessandro.tomassini@mrc-cbu.cam.ac.uk)

**Poster III - 05**

**Computational advantages of dopaminergic states for decision making**

**Alana Jaskir, Michael Frank**

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**Poster III - 06**

**Ergodicity-Breaking Reveals Time Optimal Economic Behavior in Humans**

**David Meder<sup>1</sup>, Finn-Lennart Rabe<sup>2</sup>, Tobias Morville<sup>1</sup>, Kristoffer H. Madsen<sup>1</sup>, Magnus T. Koudahl<sup>3</sup>, Ray J. Dolan<sup>4</sup>, Hartwig R. Siebner<sup>1</sup>, Oliver J. Hulme<sup>1</sup>**

<sup>1</sup>Danish Research Centre for Magnetic Resonance, Denmark; <sup>2</sup>NCM Lab, ETH Zurich;

<sup>3</sup>BIASlab, Eindhoven University of Technology; <sup>4</sup>Max Planck UCL Centre for Computational Psychiatry and Ageing Research; [davidm@drcmr.dk](mailto:davidm@drcmr.dk)

**Poster III - 07**

**Errors by responding to the distractors in the flanker task are accompanied by increased selective attention to the distractors: Evidence from visual probes**

**Martin E. Maier, Marco Steinhauser**

Catholic University Eichstätt-Ingolstadt, Germany; [martin.maier@ku.de](mailto:martin.maier@ku.de)

**Poster III - 08**

**Does goal ambiguity affects mental workload?**

**Yuexin Cao, Thea Radüntz**

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**Poster III - 09**

**Distinct and overlapping neural representations of metacognitive knowledge and metacognitive control**

**Annika Boldt, Sam Gilbert**

Institute of Cognitive Neuroscience, University College London, United Kingdom; [a.boldt@ucl.ac.uk](mailto:a.boldt@ucl.ac.uk)

### Poster III - 10

#### **Framework for modelling the effects of motivational state on choice and learning in the basal ganglia**

**Maaïke Margot Helene van Swieten, Rafal Bogacz**

University of Oxford, United Kingdom; [maaïke.vanswieten@keble.ox.ac.uk](mailto:maaïke.vanswieten@keble.ox.ac.uk)

### Poster III - 11

#### **Humor protects from stress at cognitive cost**

**Anne-Katrin Muth<sup>1,2</sup>, Christina Bolte<sup>2</sup>, Barbara Craffonara<sup>2</sup>, Soyoung Q. Park<sup>1,2,3,4</sup>**

<sup>1</sup>Deutsches Institut für Ernährungsforschung, Germany; <sup>2</sup>Department of Psychology I, University of Lübeck; <sup>3</sup>Charité-Universitätsmedizin Berlin; <sup>4</sup>German Center for Diabetes Research (DZD); [anne-katrin.muth@dife.de](mailto:anne-katrin.muth@dife.de)

### Poster III - 12

#### **Interacting effects of transcranial direct current stimulation and manipulations of control on Pavlovian bias during reinforcement learning**

**Gábor Csifcsák<sup>1</sup>, Jorunn Bjørkøy<sup>1</sup>, Sarjo Kuyateh<sup>1</sup>, Haakon Reithe<sup>1</sup>, Vera Daniella Dalos<sup>2</sup>, Levente Rónai<sup>2</sup>, Szilvia Szalóki<sup>2</sup>, Matthias Mittner<sup>1</sup>**

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### Poster III - 13

#### **Modulatory effects of positive mood and approach motivation on reward processing: two sides of the same coin?**

**Katharina Paul<sup>1</sup>, Gilles Pourtois<sup>1</sup>, Eddie Harmon-Jones<sup>2</sup>**

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>University of New South Wales, Australia; [katharina.paul@ugent.be](mailto:katharina.paul@ugent.be)

### Poster III - 14

#### **Neuronal correlates of sequential decision-making in tobacco use disorder**

**Julia Berghäuser, Marie-Kristin Siegl, Tanja Endrass**

Technische Universität Dresden, Chair of Addiction Research, Germany; [julia.berghaeuser@tu-dresden.de](mailto:julia.berghaeuser@tu-dresden.de)

### Poster III - 15

#### **Novel choices in macaques: activation and disruption of a neural mechanism for value integration**

**Alessandro Bongioanni, Miriam Klein-Flügge, Davide Folloni, Lennart Verhagen, Jerome Sallet, Matthew Rushworth**

University of Oxford, United Kingdom; [alessandro.bongioanni@psy.ox.ac.uk](mailto:alessandro.bongioanni@psy.ox.ac.uk)

### Poster III - 16

#### **Older Adults Demonstrate Greater Model-based Decision-making when Task Demands are Reduced**

**Alexa Ruel<sup>1</sup>, Florian Bolenz<sup>1</sup>, Shu-Chen Li<sup>2</sup>, Ben Eppinger<sup>2</sup>**

<sup>1</sup>Concordia University, Canada; <sup>2</sup>TU Dresden, Germany; [alexa.ruel@mail.concordia.ca](mailto:alexa.ruel@mail.concordia.ca)

### Poster III - 17

#### **Opposing roles for amygdala and vmPFC in the return of appetitive conditioned responses in humans**

**Claudia Ebrahimi<sup>1</sup>, Stefan Koch<sup>1</sup>, Charlotte Pietrock<sup>1</sup>, Thomas Fydrich<sup>2</sup>, Andreas Heinz<sup>1,3</sup>, Florian Schlagenhauf<sup>1,4</sup>**

<sup>1</sup>Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Germany; <sup>2</sup>Humboldt University of Berlin, Germany; <sup>3</sup>Cluster of Excellence NeuroCure, Charité – Universitätsmedizin, Germany; <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Germany; [claudia.ebrahimi@charite.de](mailto:claudia.ebrahimi@charite.de)

### Poster III - 18

#### **Real and fictive feedback processing in depressed and healthy individuals**

**Tilmann A. Klein<sup>1,2</sup>, Adrian G. Fischer<sup>1,2,3</sup>, Gabriele Meyer-Lotz<sup>4</sup>, Thomas Frodl<sup>4</sup>, Markus Ullsperger<sup>1,2</sup>**

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### Poster III - 19

#### **Simultaneously modeling behavioral and neural data**

**Kathleen Wiencke<sup>1,2</sup>, Jane Neumann<sup>1,2,3</sup>**

<sup>1</sup>Department of Neurology, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; <sup>2</sup>IFB Adiposity Diseases, Leipzig University Medical Center, Leipzig, Germany; <sup>3</sup>Department of Medical Engineering and Biotechnology, University of Applied Sciences, Jena, Germany; [wiencke@cbs.mpg.de](mailto:wiencke@cbs.mpg.de)

**Poster III - 20**

**Striatal Dopamine Promotes Cognitive Effort by Amplifying the Benefits Versus the Costs of Cognitive Work**

**Andrew Westbrook**<sup>1,2</sup>, **Lieke Hofmans**<sup>2</sup>, **Jessica Määttä**<sup>2</sup>, **Danae Papadopetraki**<sup>2</sup>, **Ruben van Den Bosch**<sup>2</sup>, **Michael Frank**<sup>1,3</sup>, **Roshan Cools**<sup>2,4</sup>

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**Poster III - 21**

**Temporal dynamics of error-related corrugator supercilii and zygomaticus major activity - Evidence for implicit emotion regulation following errors**

**David Dignath**<sup>1</sup>, **Anja Berger**<sup>2</sup>, **Iris Spruit**<sup>3</sup>, **Henk van Steenbergen**<sup>3</sup>

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**Poster III - 22**

**Test-retest-reliability of a novel probabilistic reversal-learning task across four weeks**

**Lara Wieland**, **Teresa Katthagen**, **Orestis Ratzikis**, **Stella Zimmermann**, **Florian Schlagenhaut**

Charité, Germany; [lara.wieland@charite.de](mailto:lara.wieland@charite.de)

**Poster III - 23**

**The affective valence appraisal of correct and incorrect actions: Evidence from emotional priming and autonomic arousal**

**Luisa Balzus**<sup>1,2</sup>, **Norbert Kathmann**<sup>1</sup>, **Julia Klawohn**<sup>1,3</sup>

<sup>1</sup>Institut für Psychologie, Humboldt-Universität zu Berlin; <sup>2</sup>Berlin School of Mind and Brain, Humboldt-Universität zu Berlin; <sup>3</sup>Department of Psychology, Florida State University; [luisa.balzus@hu-berlin.de](mailto:luisa.balzus@hu-berlin.de)

**Poster III - 24**

**How flexibly can the brain adapt to different timescales of evidence integration?**

**Maria Ruesseler<sup>1</sup>, Tom Marshall<sup>2</sup>, Jill O'Reilly<sup>2</sup>, Laurence Hunt<sup>1</sup>**

<sup>1</sup>Department of Psychiatry, University of Oxford, UK; <sup>2</sup>Department of Experimental Psychology, University of Oxford, UK; [maria.ruesseler@sjc.ox.ac.uk](mailto:maria.ruesseler@sjc.ox.ac.uk)

**Poster III - 25**

**Grasping motivation: Approach and Avoidance behavior is represented in grasping and slipping hand-movements**

**Sofie Nilsson<sup>1</sup>, David Meder<sup>1</sup>, Kristoffer Hougaard Madsen<sup>1</sup>, Ivan Toni<sup>2</sup>, Hartwig Siebner<sup>1</sup>**

<sup>1</sup>Danish Reserach Center for Magnetic Resonance, Copenhagen; <sup>2</sup>Radboud University, Nijmegen; [sofien@drcmr.dk](mailto:sofien@drcmr.dk)

**Poster III - 26**

**The clinical relevance of the neurocomputational processes underlying motivational biases**

**Vanessa Scholz<sup>1</sup>, Johannes Algermissen<sup>1</sup>, Mojtaba Rostami Kandroodi<sup>1,2</sup>, Hanneke E.M. den Ouden<sup>1</sup>**

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**Poster III - 27**

**The construction and deconstruction of irrational preferences through range-adapting reinforcement learning**

**Sophie Bavard<sup>1</sup>, Aldo Rustichini<sup>2</sup>, Stefano Palminteri<sup>1</sup>**

<sup>1</sup>Ecole Normale Supérieure, Paris, France; <sup>2</sup>University of Minnesota, Minneapolis, USA; [sophie.bavard@gmail.com](mailto:sophie.bavard@gmail.com)

**Poster III - 28**

**The distractor frequency effect in the Picture–Word task with a mirrored word**

**Aleksei Starodubtsev, Kirill Miroshnik, Mihail Sopov**

Saint-Petersburg University, Russian Federation; [fleksbr@yandex.ru](mailto:fleksbr@yandex.ru)

**Poster III - 29**

**Intracranial recordings reveal distinct spatio-temporal dynamics for proactive and reactive conflict processing during a Stroop task**

**Colin Weir Hoy<sup>1</sup>, Robert Thomas Knight<sup>1,2</sup>**

<sup>1</sup>Helen Wills Neuroscience Institute, University of California Berkeley, USA;

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**Poster III - 30**

**The effects of effort on working memory performance and pupillary responses in schizophrenia**

**Isabel Viola Kreis<sup>1</sup>, Steffen Moritz<sup>2</sup>, Gerit Pfuhl<sup>1</sup>**

<sup>1</sup>UiT - The Arctic University of Norway, Tromsø, Norway; <sup>2</sup>Department of Psychiatry and Psychotherapy, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; [isabel.v.kreis@uit.no](mailto:isabel.v.kreis@uit.no)

**Poster III - 31**

**The influence of positive and negative incentives on cognitive effort persistence**

**Xiamin Leng<sup>1</sup>, Debbie Yee<sup>2</sup>, Amitai Shenhav<sup>1</sup>**

<sup>1</sup>Department of Cognitive, Linguistic and Psychological Sciences, Brown University, United States of America; <sup>2</sup>Department of Psychological and Brain Sciences, Washington University in St. Louis, United States of America;

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**Poster III - 32**

**Non-linear value and probability distortions can be optimal for noisy decision-makers in economic choice**

**Keno Juechems<sup>1,3</sup>, Jan Balaguer<sup>1,3</sup>, Bernhard Spitzer<sup>1,2,4</sup>, Christopher Summerfield<sup>1,4</sup>**

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**Poster III - 33**

**The P300 as marker of inhibitory control – fact or fiction?**

**Rene Huster, Mari Messel, Christina Thunberg, Liisa Raud**

Multimodal Imaging and Cognitive Control Lab, Department of Psychology, University of Oslo, Norway; [rene.huster@psykologi.uio.no](mailto:rene.huster@psykologi.uio.no)

**Poster III - 34**

**Distinct modes of reward-related modulation of perceptual sensitivity depending on the task contingency**

**Jessica Emily Antono, Roman Vakhrushev, Arezoo Pooresmaeili**

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**Poster III - 35**

**Goal-directed response switching in alcoholism**

**Janina Marchner<sup>1</sup>, Claudia Preuschhof<sup>1,2</sup>**

<sup>1</sup>Department of Clinical Developmental Psychology, Otto-von-Guericke University Magdeburg, Germany; <sup>2</sup>Center for Behavioral Brain Sciences, Magdeburg, Germany; [janina.marchner@ovgu.de](mailto:janina.marchner@ovgu.de)

**Poster III - 36**

**Identical observed error performance of humans and autonomous systems is associated with qualitatively different electrophysiological brain responses**

**Daniel A. Rogers<sup>1</sup>, Kirsty Brooks<sup>2</sup>, Anthony Finn<sup>1</sup>, Matthias Schlesewsky<sup>1</sup>, Markus Ullsperger<sup>3</sup>, Ina Bornkessel-Schlesewsky<sup>1</sup>**

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**Poster III - 37**

**Modulation of behavioral and electrophysiological responses to visual targets by the reward value of co-occurring auditory or visual cues**

**Roman Vakhrushev<sup>1</sup>, Felicia Pei-Hsin Cheng<sup>1</sup>, Annekathrin Schacht<sup>2</sup>, Arezoo Pooresmaeili<sup>1</sup>**

<sup>1</sup>European Neuroscience Institute, Göttingen, Germany; <sup>2</sup>University of Göttingen, Institute of Psychology, Germany; [r.vakhrushev@eni-g.de](mailto:r.vakhrushev@eni-g.de)

**Poster III – 38**

**Influence of non-invasive brain stimulation on executive function local activity and effective connectivity**

**Luise Claaß<sup>1</sup>, Annika Hedrich<sup>1,2</sup>, Janis Reichelt<sup>1</sup>, Bernhard Sehm<sup>1</sup>, Arno Villringer<sup>1</sup>, Florian Schlagenhauf<sup>1,2,3,4</sup>, Jakob Kaminski<sup>1,2,3</sup>**

<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences; <sup>2</sup>Charité Universitätsmedizin, Germany; <sup>3</sup>Berlin Institute of Health, Berlin, Germany; <sup>4</sup>Bernstein Center for Computational Neuroscience, Berlin, Germany; [jakob.kaminski@charite.de](mailto:jakob.kaminski@charite.de)

**Poster III - 39**

**Structural covariance patterns of the anterior RCZ: Age effects and comparison to functional connectivity**

**Alexander Weuthen**<sup>1,2</sup>, **Markus Ullsperger**<sup>1,3</sup>

<sup>1</sup>Otto-von-Guericke University, Institute of Psychology, Magdeburg, Germany; <sup>2</sup>Institute of Neuroscience and Medicine (INM-7Brain and Behaviour), Forschungszentrum Jülich, Germany; <sup>3</sup>Center for Behavioral Brain Science, Magdeburg; [weuthen@ovgu.de](mailto:weuthen@ovgu.de)

ADDITIONAL INFORMATION &  
DIRECTIONS



# Directions: Motel One Berlin Hauptbahnhof – Langenbeck-Virchow-Haus



## POINTS OF INTEREST

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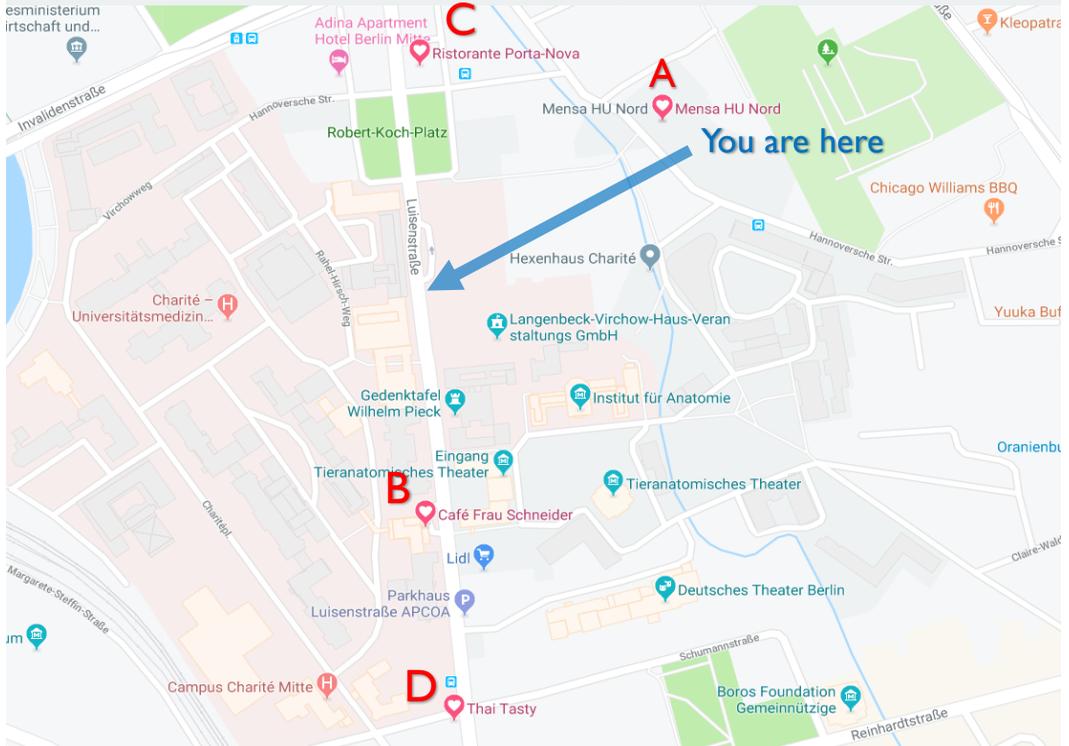
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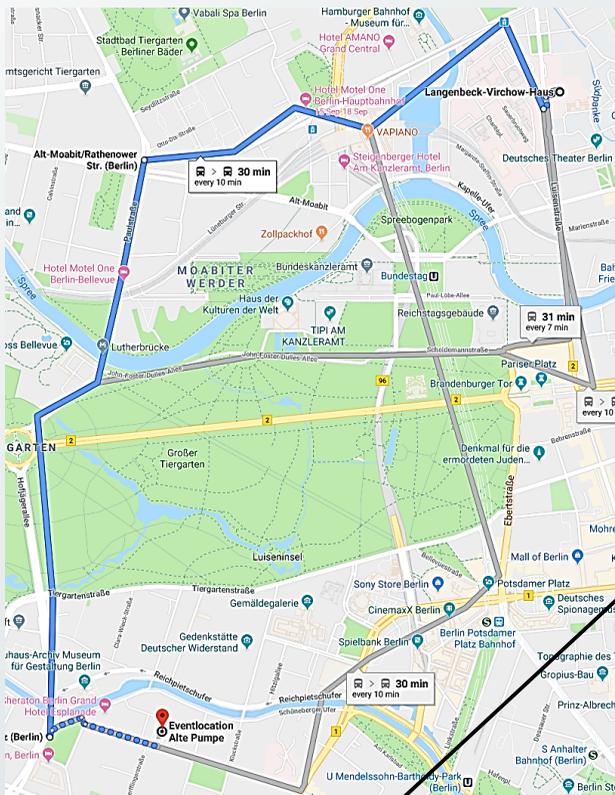
# AREAS OF INTEREST



- A** Mensa HU-Nord (Canteen of Charité and Humboldt University)
- B** Café Frau Schneider (Coffee and Lunch)
- C** Porta Nova (Italian Cuisine)
- D** Thai Tasty (Thai Cuisine)

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TUESDAY  
SEPTEMBER 17, 2019  
20:00



Possible directions:

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Langenbeck-Virchow-Haus  
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2. a) Take **bus 245** (Dir. S+U  
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3. a) Take **bus 187** (Dir. Lankwitz/  
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2. b) take **bus 245** (Dir. S+U  
Alexanderplatz) until  
**Brandenburger Tor**

3. b) Take **bus 100** (Dir. S+U  
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**Lützowplatz**

4) Walk about 5 min (450 m) to  
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