

MECHANISMS OF CONSCIOUS AND UNCONSCIOUS LEARNING

WELCOME



Ph.D. Student

WP2

PERINE COPPENS

I am a PhD student at the Centre for the Psychology of Learning and Experimental Psychopathology (CLEP, KU Leuven, Belgium). My promotor is Prof. Dr. Tom Beckers and my co-promoters are Prof. Dr. Jan De Houwer (UGent, Belgium) and Prof. Dr. Teresa McCormack (Queen's University Belfast, UK). The subject of my PhD project is Pavlovian-to-Instrumental Transfer as a tool to probe the acquisition of behavioral control in children and adults. The goal of my project is to investigate the mechanisms of PIT in adults and assess its developmental trajectory in children.

KUL

LAB



WELCOME @ CO3

Irene Cogliati Dezza



Ph.D. Student



Research

Irene Cogliati Dezza is a PhD student supported by UNI fellowship. She studies human decision-making in the light of exploration vs. exploitation dilemma. Her main interest is focused on decisional processes, executive functions and consciousness interaction in the dilemma, in both healthy adults and in addictive behaviours. She is also working on computational models simulating decision-making networks.

WELCOME @ LCCLD

Camille Vidal



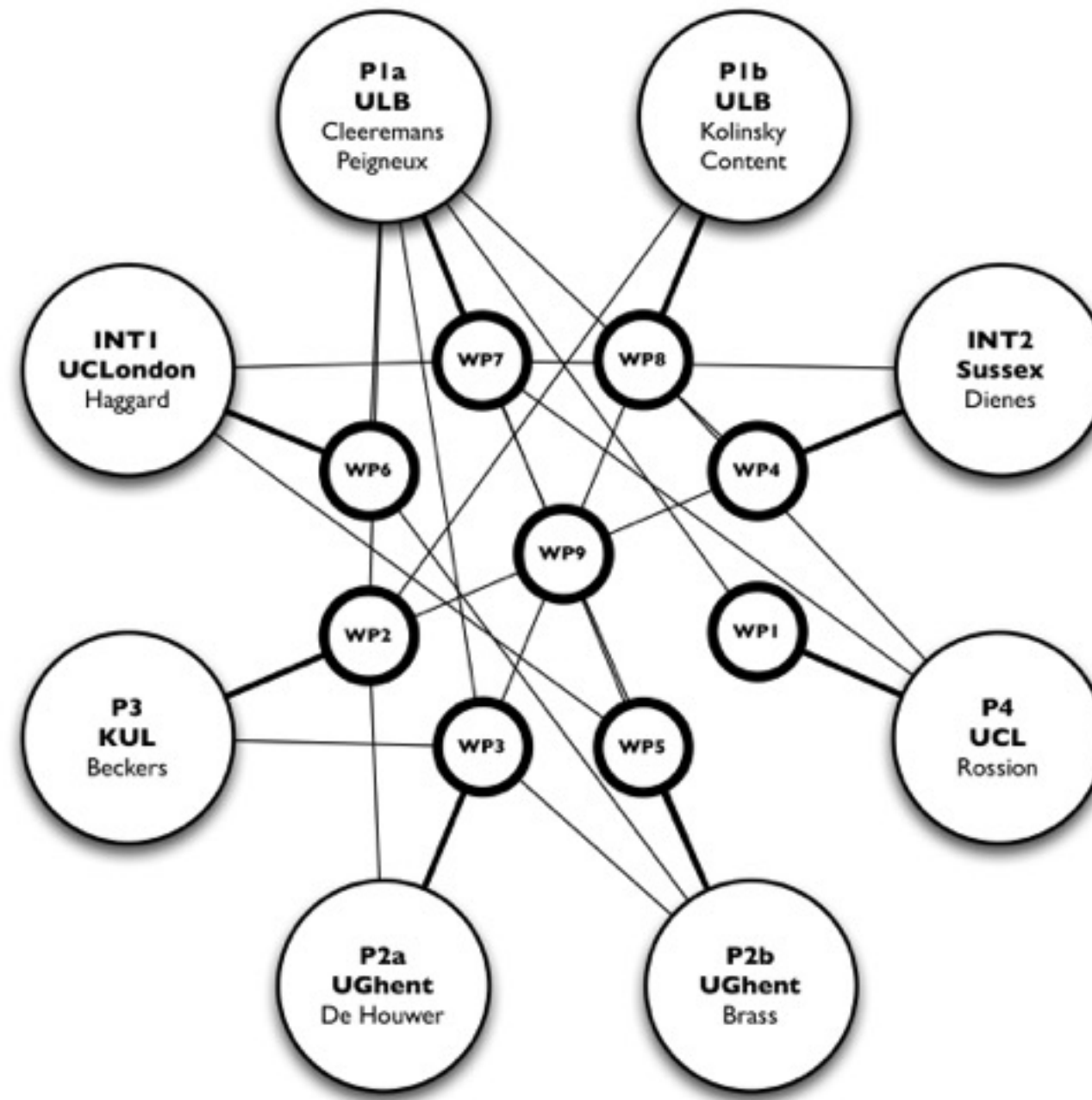
Ph.D. Student












Research

I am a PhD student interested in orthographic processing of words. More particularly, I am developing an artificial writing system to study the influence of the letter category, consonant or vowel, in word recognition.































IAP 7/33



ACTIVITIES

TITLE ▼	EVENT TYPE ▼	PUBLICATION DATE ▲
COOL IAP KUL-ULB PARTNERS FUNDED "HYPNOS" HEALING POWERS" PROJECT		2014 12
COOL3 MEETING		2014 11
PROGRAM FOR WORKSHOP ON ASSOCIATIVE AND PROPOSITIONAL PROCESSES IN LEARNING AVAILABLE		2014 10
JAY MCCLELLAND, HEINEKEN PRIZE 2014 RECIPIENT & ULB DHC, TO SPEAK AT THE UNIVERSITY FOUNDATION ON SEPTEMBER 26TH @ 18:00		2014 09
SYMPOSIUM ON ASSOCIATIVE AND PROPOSITIONAL PROCESSES IN ASSOCIATIVE LEARNING		2014 05
INVITED KUL PROFESSOR TOM BECKERS TEACHING ON THE ROLE OF CONDITIONING AT ULB		2014 04
DECISIONS, DECISIONS: UCL.UK COOL RESEARCH ON TAPE		2014 04
IAP MEETING ON LEARNING VIA INSTRUCTIONS (WP3)		2014 01
SEMINAR BY ISABELLE MASSAT AND PHILIPPE PEIGNEUX AT KU LEUVEN		2014 01

PUBLICATIONS

TITLE ▼	AUTHOR ▼	INSTITUTION ▼	DATE ▲	ABSTRACT	DOWNLOAD
 NEW FRONTIERS IN THE RUBBER HAND EXPERIMENT: WHEN A ROBOTIC HAND BECOMES ONE'S OWN	Axel Cleeremans	ULB	2014 12	▼	 864KB
 TIMING THE IMPACT OF LITERACY ON VISUAL PROCESSING	Régine Kolinsky	ULB	2014 11		 151KB
 SELECTIVITY IN ASSOCIATIVE LEARNING: A COGNITIVE STAGE FRAMEWORK FOR BLOCKING AND CUE COMPETITION PHENOMENA	Tom Beckers	KUL	2014 10	▼	 →
 HOW LEARNING TO READ INFLUENCES LANGUAGE AND COGNITION	Régine Kolinsky	ULB	2014 10		 206KB
 HOW FORMAL EDUCATION AND LITERACY IMPACT ON THE CONTENT AND STRUCTURE OF SEMANTIC CATEGORIES	Régine Kolinsky	ULB	2014 10		 380KB
 A CULTURAL SIDE EFFECT: LEARNING TO READ INTERFERES WITH OBJECT IDENTITY PROCESSING	Régine Kolinsky	ULB	2014 10		 2MB
 L'INFLUENCE DE L'APPRENTISSAGE DU LANGAGE ÉCRIT SUR LES AIRES DU LANGAGE/THE IMPACT OF LITERACY ON THE LANGUAGE BRAIN AREAS	Régine Kolinsky	ULB	2014 10		 1MB
 FROM ACTION INTENTIONS TO ACTION EFFECTS: HOW DOES THE SENSE OF AGENCY COME ABOUT?	Nura Sidarus	UCLUK	2014 08	▼	 →
 THE ROLE OF CONSONANT/VOWEL ORGANIZATION IN PERCEPTUAL DISCRIMINATION	Fabienne Chetail	ULB	2014 05	▼	 825KB
 CONNECTING CONSCIOUS AND UNCONSCIOUS PROCESSING	Axel Cleeremans	ULB	2014 04	▼	 9MB
 ON THE OTHER SIDE OF THE MIRROR: PRIMING IN COGNITIVE AND SOCIAL PSYCHOLOGY	Axel Cleeremans	ULB	2014 04	▼	 315KB
 THE GRADED AND DICHOTOMOUS NATURE OF VISUAL AWARENESS	Axel Cleeremans	ULB	2014 04	▼	 832KB
 SUBLIMINAL ACTION PRIMING MODULATES THE PERCEIVED INTENSITY OF SENSORY ACTION CONSEQUENCES	Nura Sidarus	UCLUK	2014 04	▼	 569KB
 PRIMING OF ACTIONS INCREASES SENSE OF CONTROL OVER UNEXPECTED OUTCOMES	Nura Sidarus	UCLUK	2014 04	▼	 500KB
 WHAT IS THE DIFFERENCE BETWEEN OASIS AND OPERA? ROUGHLY FIVE PIXELS: ORTHOGRAPHIC STRUCTURE BIASES THE PERCEIVED LENGTH OF LETTER STRINGS	Alain Content	ULB	2014 01	▼	 1MB

WEBSITE

COOL

NEWS & EVENTS

PROJECT

PARTNERS

DOCUMENTS

NEWS & EVENTS

COOL3 MEETING

Leuven, Belgium

11th December 2014 to 11th December 2014

The 3rd annual meeting of the BELSPO-funded COOL network will take place on December 11th, 2014 at "The Irish College" in Leuven. Organized by Tom Beckers, it will feature progress reports from each of the WP leaders as well as research presentations by junior [...]

[Read more](#)



PROGRAM

9.30 Introduction by Axel Cleeremans

9:40 Partner/WP presentations

What are we doing, who is doing it, what's planned?

9:40 Brussels1 (Cleeremans/Peigneux)

Leading on WP7, partner in WP1-6

9:50 Brussels2 (Content/Kolinsky)

Leading on WP8, partner in WP2

10:00 Ghent1 (De Houwer)

Leading on WP3, partner in WP2, WP8

10:10 Ghent2 (Brass)

Leading on WP5, partner in WP3, WP6, WP7

10:20 Leuven (Beckers)

Leading on WP2, partner in WP3, WP4

10:30 Louvain (Rossion)

Leading on WP1, partner in WP7, WP8

10:40 London (Haggard)

Leading on WP6, partner in WP5, WP7

10:50 Sussex (Dienes)

Leading on WP4, partner in WP7

Research presentations

Presentations from junior researchers involved in the IAP network

11:30 Senne Braem (Ghent)

11:55 Elisa Maes (Leuven)

12:20 Lunch + Administrative meeting (PIs only ; 13:00-13:50)

13:50 Research presentations

13:50 Irene Cogliati (Bruxelles)

14:15 Nura Sidarius (London)

14:40 Aliette Lochy-Sutovsky (Louvain)

15:05 Fabienne Chetail (Bruxelles)

15:30 Coffee break

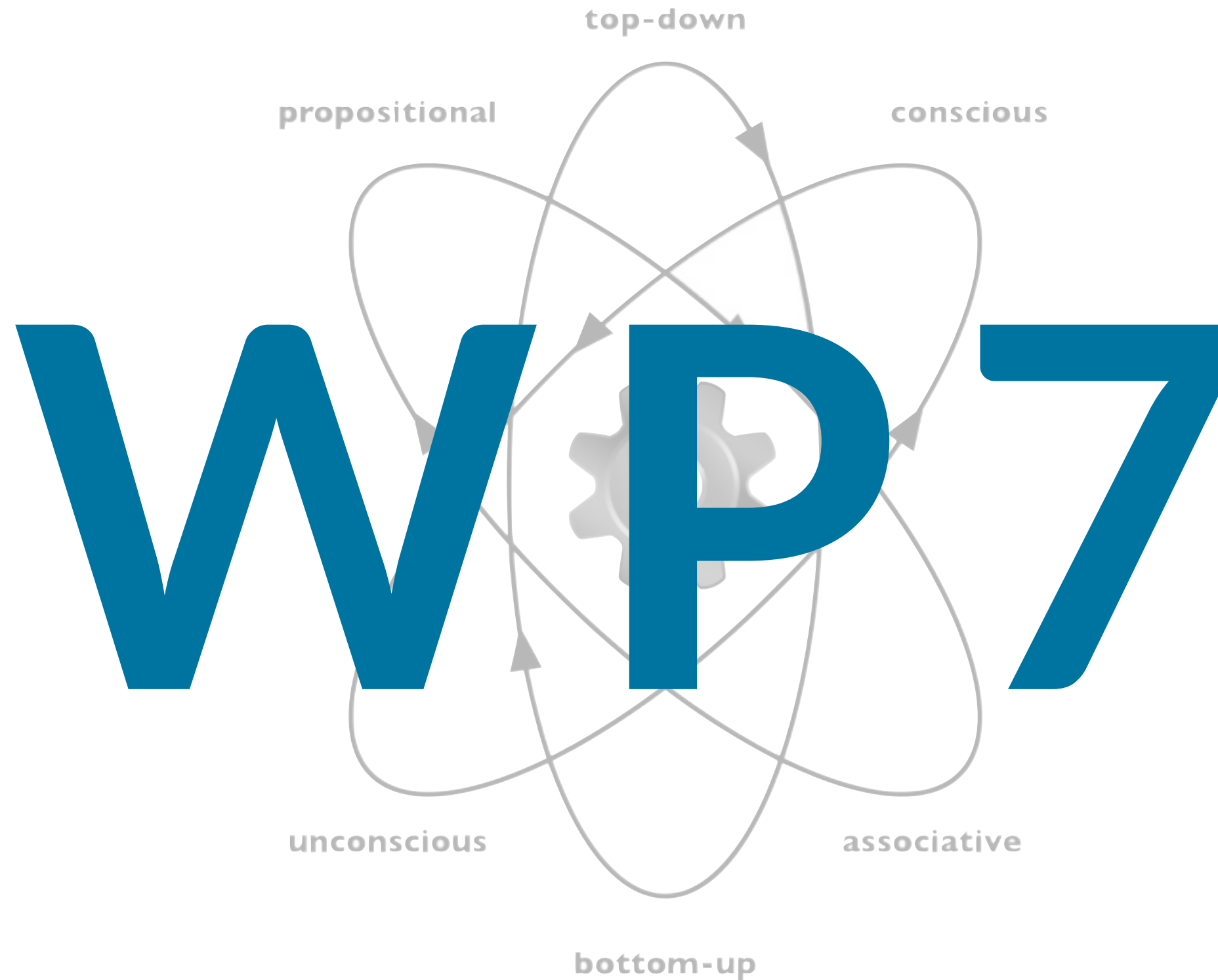
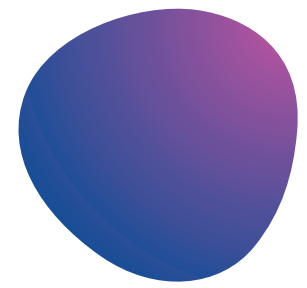
16:00 Research presentations and keynote

16:00 Peter Lush (Sussex)

16:25 Keynote by Alfons Hamm (University of Greifswald)

Dynamics of defensive responses to threat



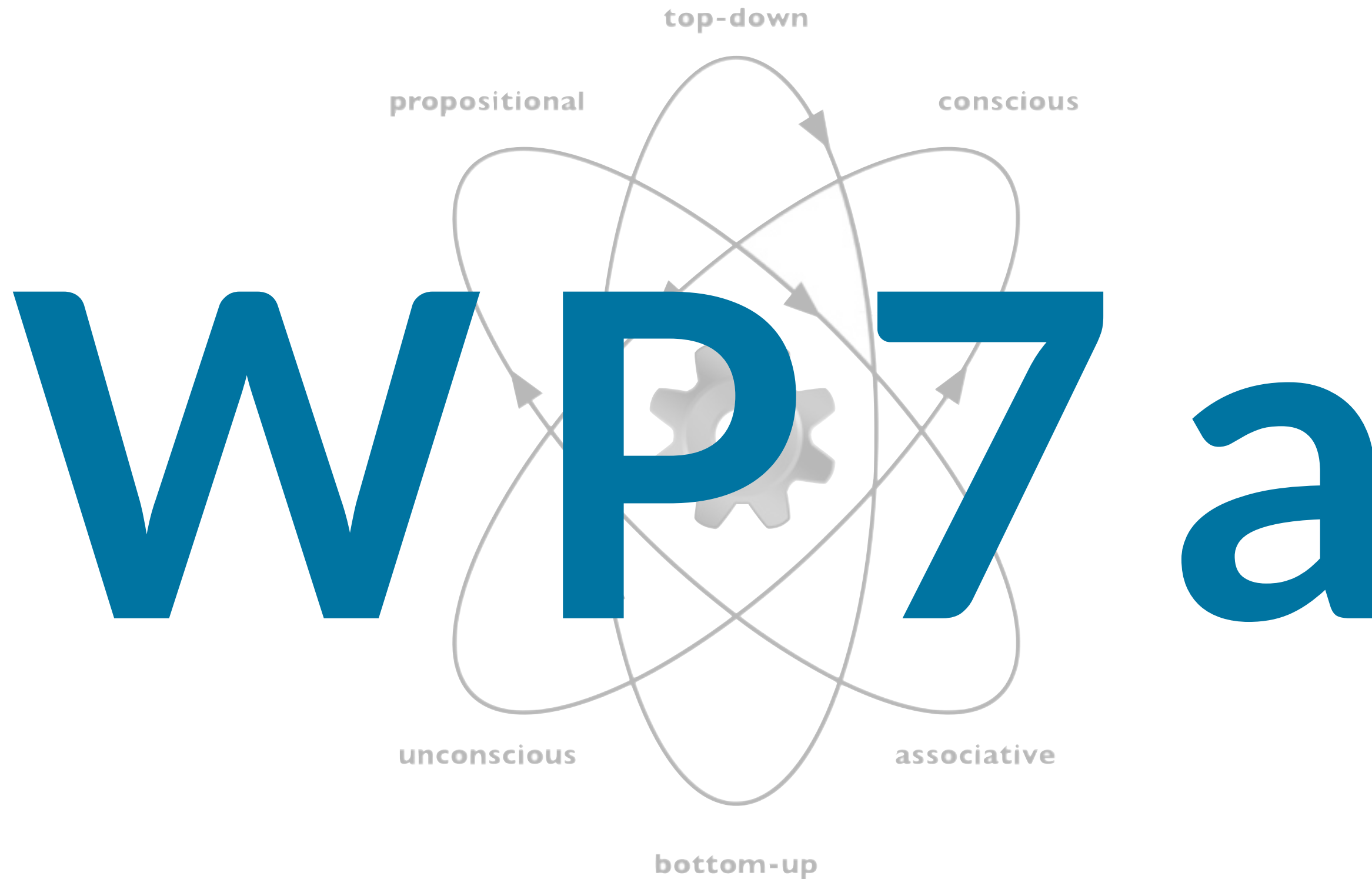


WP7 HAS THREE PARTS

- **WP7a:** Quality of representation:
Expertise studies (with Bruno, Guillermo & Philippe) & causal learning/associative learning studies (**Esti**, with Jan & Tom)
- **WP7b:** Metarepresentation: Metacognition, hypnosis, suggestion (with Zoltan)
- **WP7c:** Learning & consciousness: Externalizing the inner loop (**Emilie**, with Patrick)

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Metacognition, hypnosis, suggestion & consciousness: (with Zoltan)
- **WP7c:** Learning & Externalizing the inner loop (**Emilie**, with Patrick)
- **WP7d:** Decision-making, with Irène





ELSEVIER

Contents lists available at [ScienceDirect](#)

Consciousness and Cognition

journal homepage: www.elsevier.com/locate/concog



Repeating a strongly masked stimulus increases priming and awareness



CrossMark

Anne Atas*, Astrid Vermeiren, Axel Cleeremans

*Consciousness, Cognition and Computation Group, Université Libre de Bruxelles, Belgium
Centre de Recherche Cognition et Neurosciences, Université Libre de Bruxelles, Belgium*



Research Article

aps
ASSOCIATION FOR
PSYCHOLOGICAL SCIENCE

Nonconscious Learning From Crowded Sequences

**Anne Atas¹, Nathan Faivre^{2,3}, Bert Timmermans⁴,
Axel Cleeremans¹, and Sid Kouider²**

¹Consciousness, Cognition, and Computation Group, Centre de Recherche Cognition et Neurosciences, Université Libre de Bruxelles; ²Laboratoire de Sciences Cognitives et Psycholinguistique—Centre National de la Recherche Scientifique, École des Hautes Études en Sciences Sociales, and École Normale Supérieure; ³Biology Division, Computation and Neural Systems, California Institute of Technology; and ⁴School of Psychology, King's College, University of Aberdeen

Psychological Science

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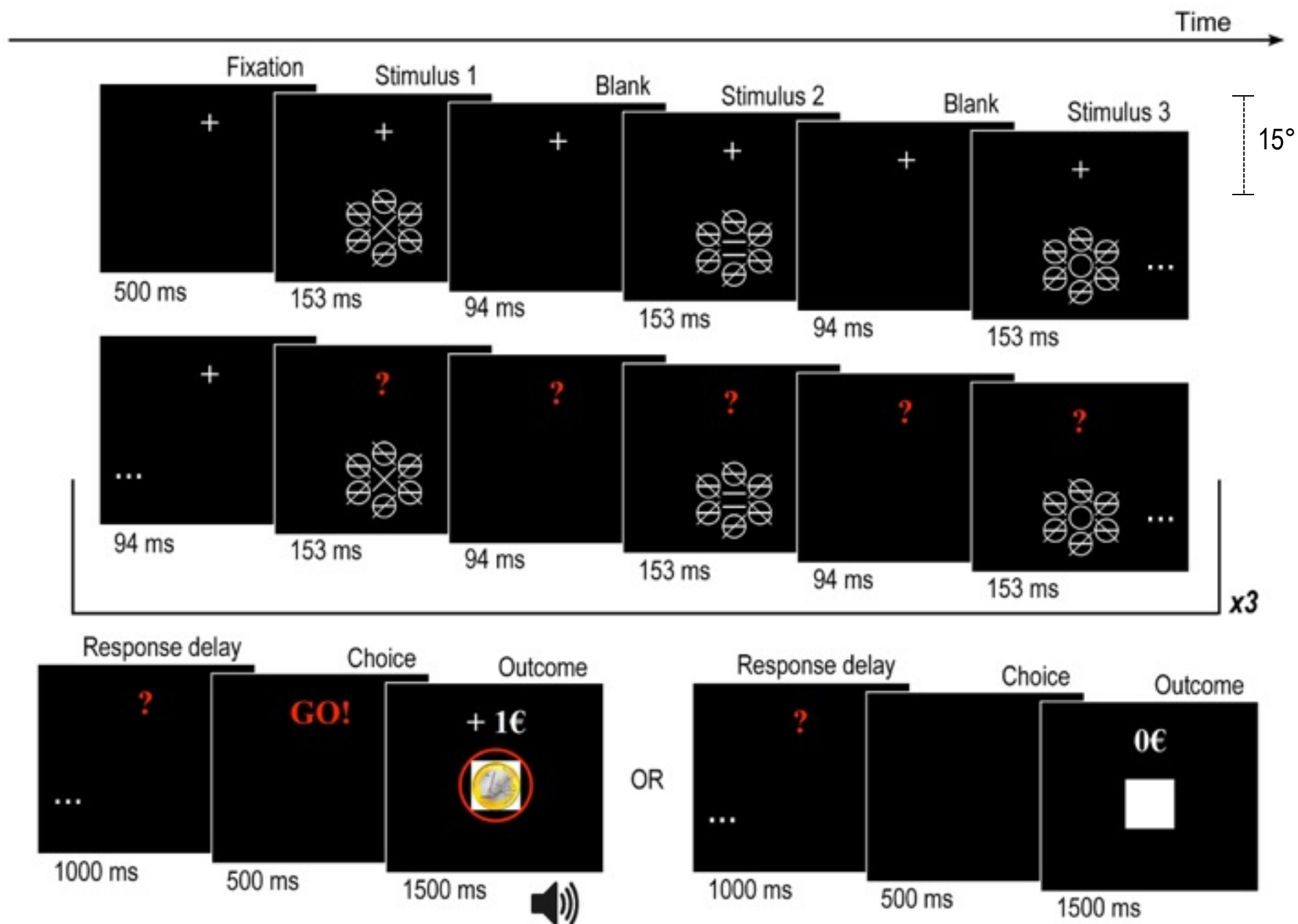
DOI: 10.1177/0956797613499591

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THE LEARNING TASK

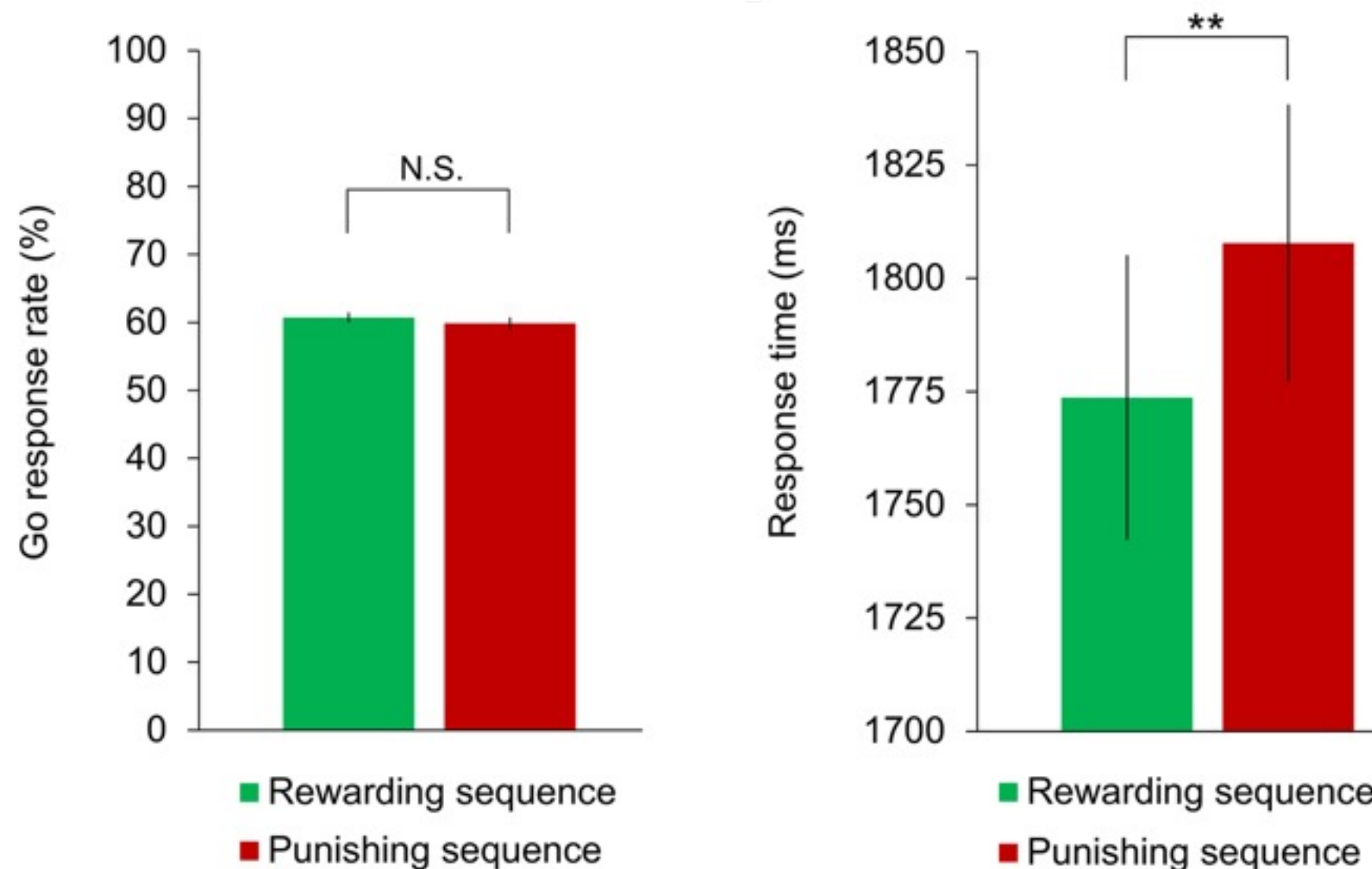


No learning on decision =

Go resp. rate of the rewarding sequence = Go resp. rate of the punishing sequence

BUT learning on RTs (for Go responses only) =

RTs of the rewarding sequence FASTER than RTs of the punishing sequence



The reversal of perceptual and motor compatibility effects differs qualitatively between metacontrast and random-line masks

Anne Atas • Estibaliz San Anton • Axel Cleeremans



CORRELATES OF THE ACQUISITION OF A MOTOR EXPERTISE WITH EXTENDED PRACTICE (fMRI STUDY)



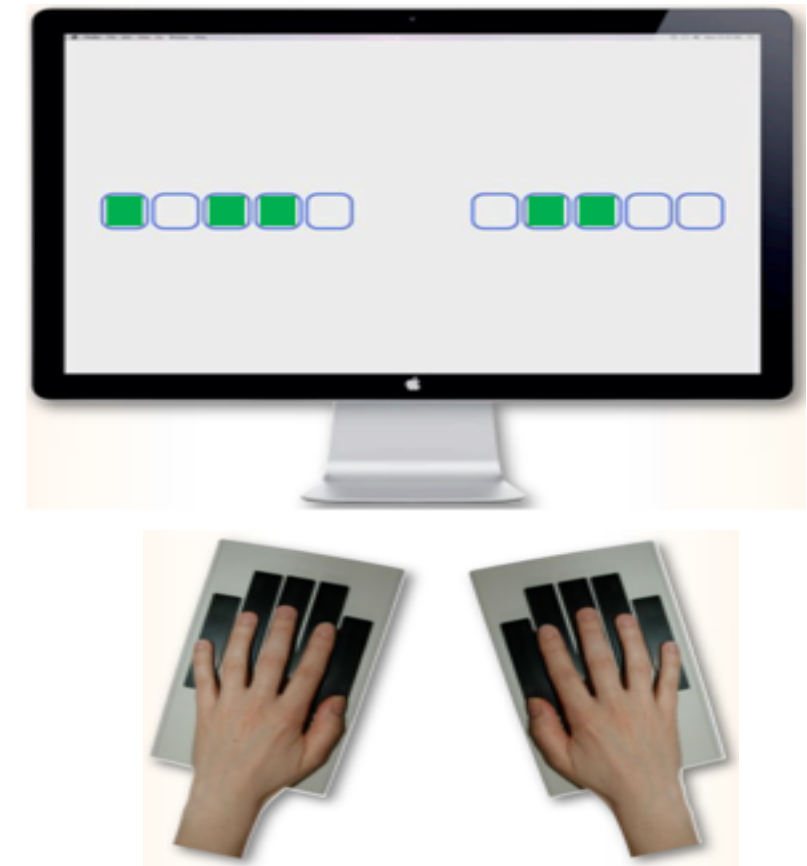
AIM

Contribute at the better understanding of motor learning expert acquisition in healthy subjects
Study of the neural correlates of chunking information process

HOW TO DO IT?

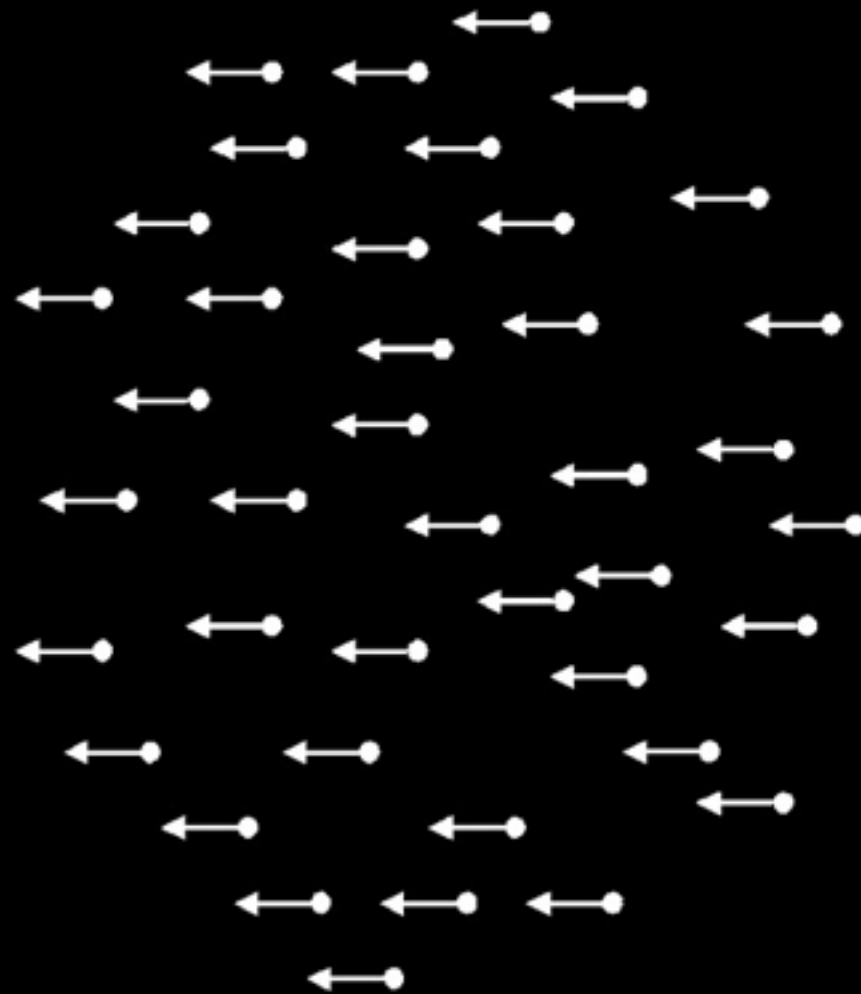
Using a multiple-Choice Reaction Time task adapted from Seibel, 1965

- The task is composed by 10 keys, one per finger that allow a total of 1024(-1) different combinations
- Participant were asked to reproduce as fast as possible the combinations (stimuli) appearing on the screen. Stimuli are **Randomly** presented!
- Participants accomplished a total of 25 sessions (+/- 1 hour/ session)
- fMRI scan was presented on 5 learning sessions (**fMRI: Sessions 1-2-4-9-25**)

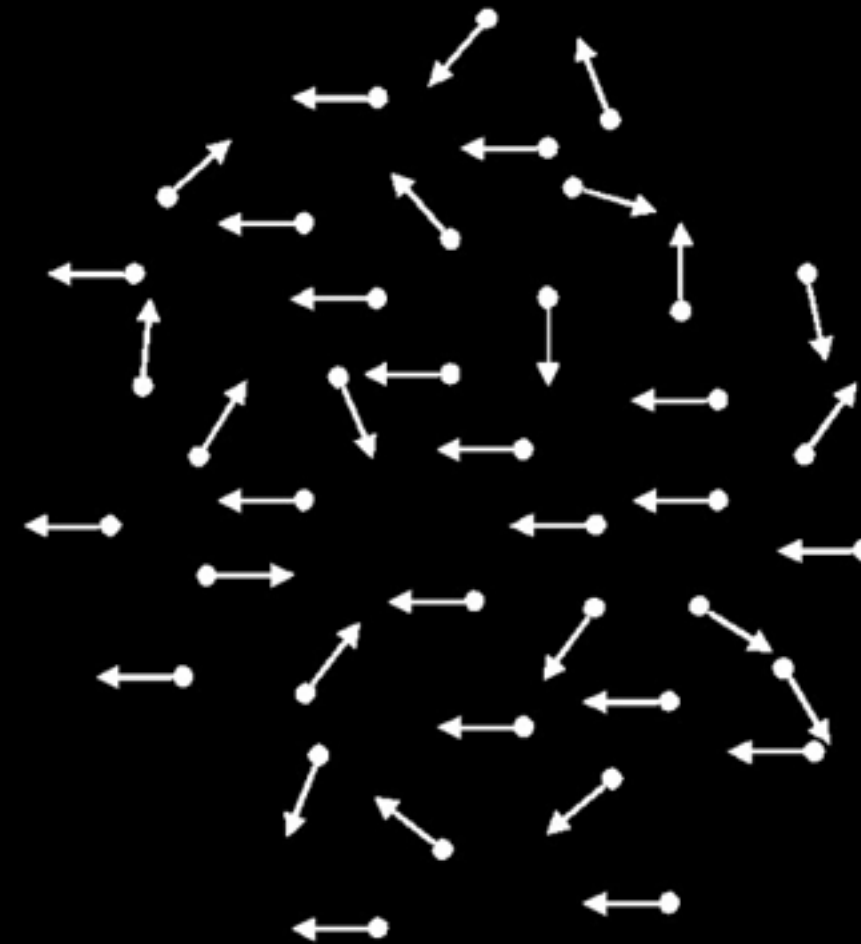


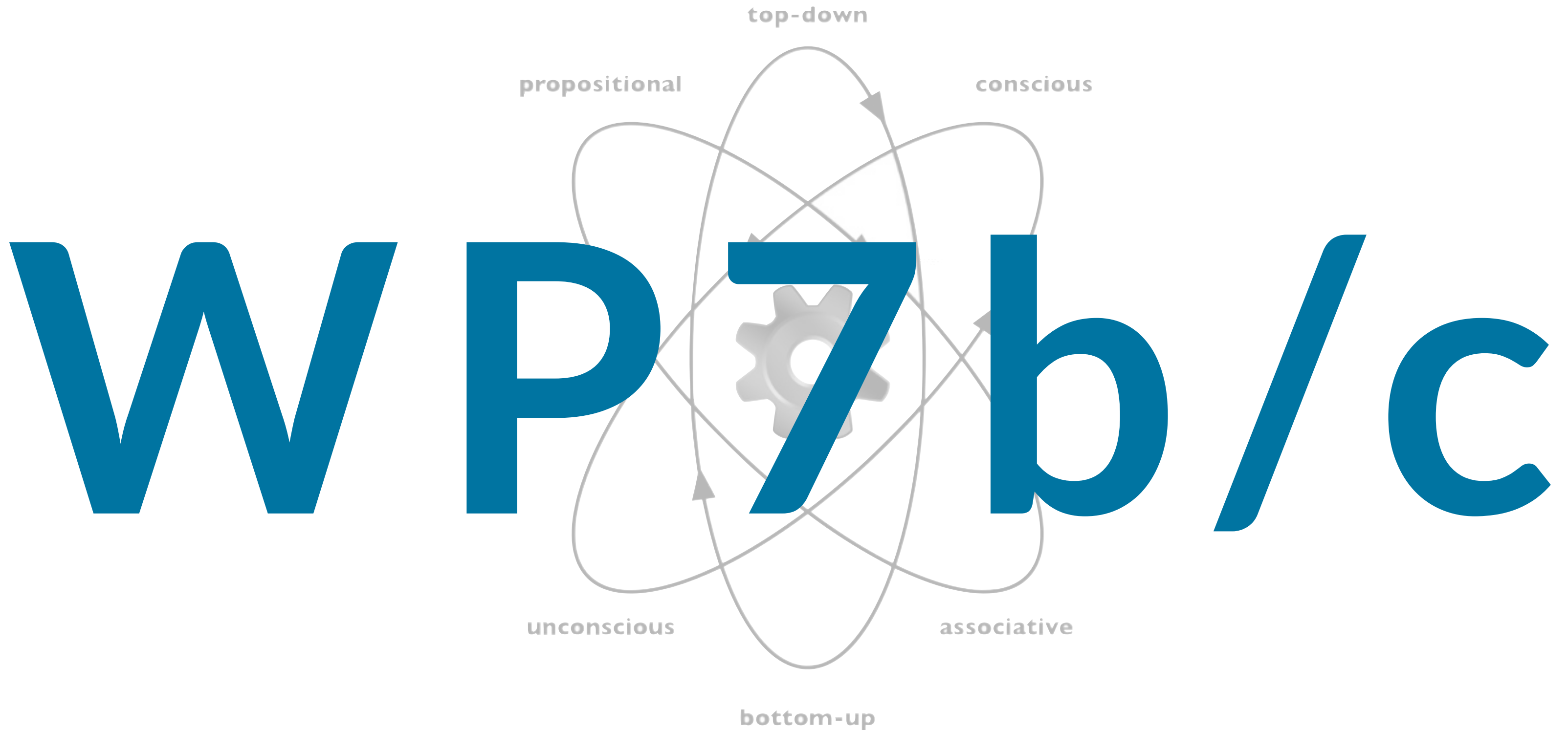
IMPLICIT LEARNING OF MOTION COHERENCE

a) 100% motion coherence



b) 50% motion coherence





Placebo-Suggestion Modulates Conflict Resolution in the Stroop Task

Pedro A. Magalhães De Saldanha da Gama^{1,5,6*}, Hichem Slama^{2,3,4,5,6}, Emilie A. Caspar^{1,5,6}, Wim Gevers^{2,5,6}, Axel Cleeremans^{1,5,6}

1 CO3 - Consciousness, Cognition & Computation Group, Université Libre de Bruxelles (ULB), Brussels, Belgium, **2** UNESCOG - Research Unit in Cognitive Neurosciences, Université Libre de Bruxelles (ULB), Brussels, Belgium, **3** UR2NF - Neuropsychology and Functional Neuroimaging Research Unit, Université Libre de Bruxelles (ULB), Belgium, **4** Department of Clinical and Cognitive Neuropsychology, Erasme Hospital, Université Libre de Bruxelles (ULB), Brussels, Belgium, **5** CRCN - Center for Research in Cognition & Neurosciences, Université Libre de Bruxelles (ULB), Brussels, Belgium, **6** UNI - The ULB Neurosciences Institute, Université Libre de Bruxelles (ULB), Brussels, Belgium



New frontiers in the rubber hand experiment: when a robotic hand becomes one's own

**Emilie A. Caspar • Albert De Beir • Pedro A. Magalhaes De Saldanha Da Gama •
Florence Yernaux • Axel Cleeremans • Bram Vanderborght**





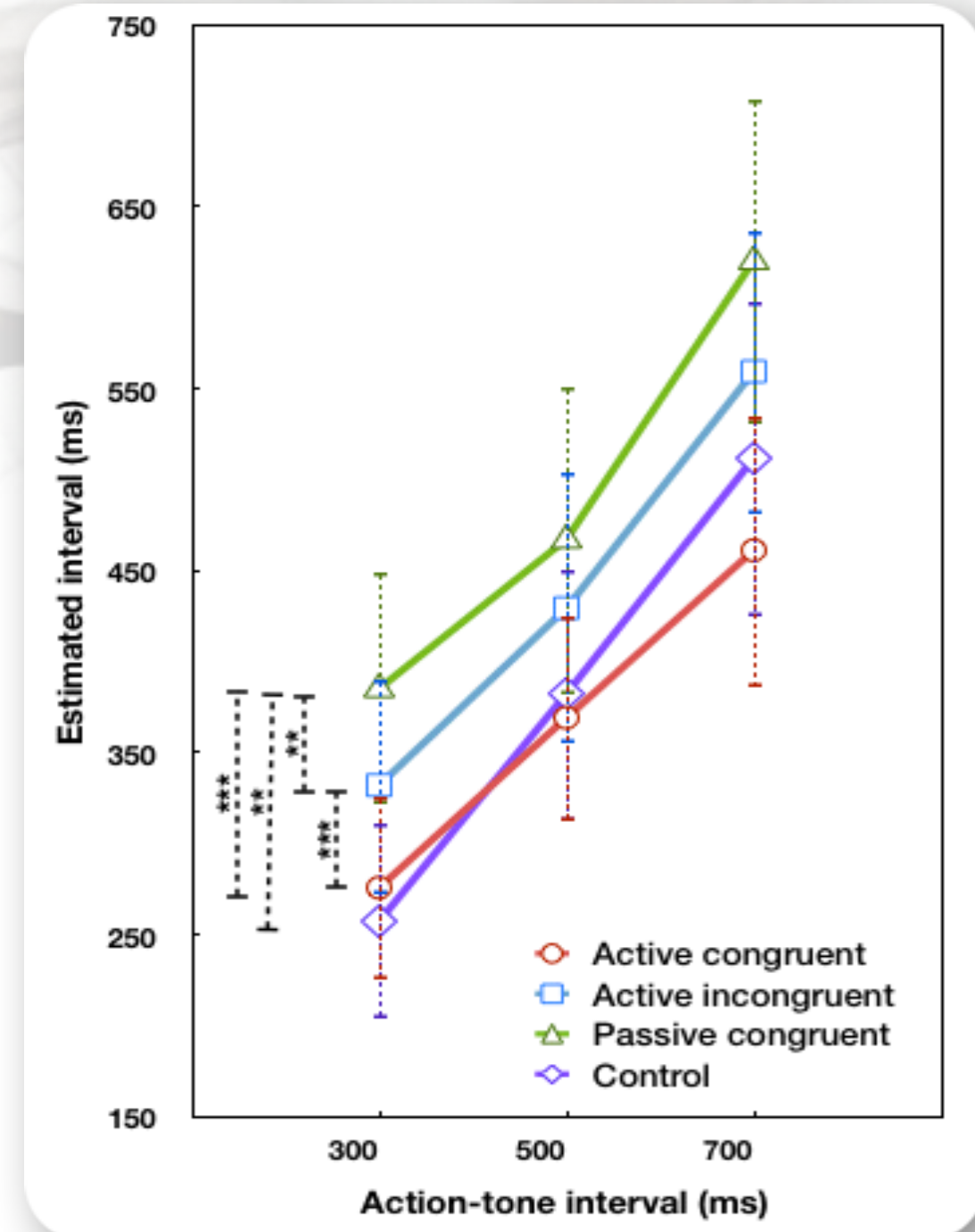


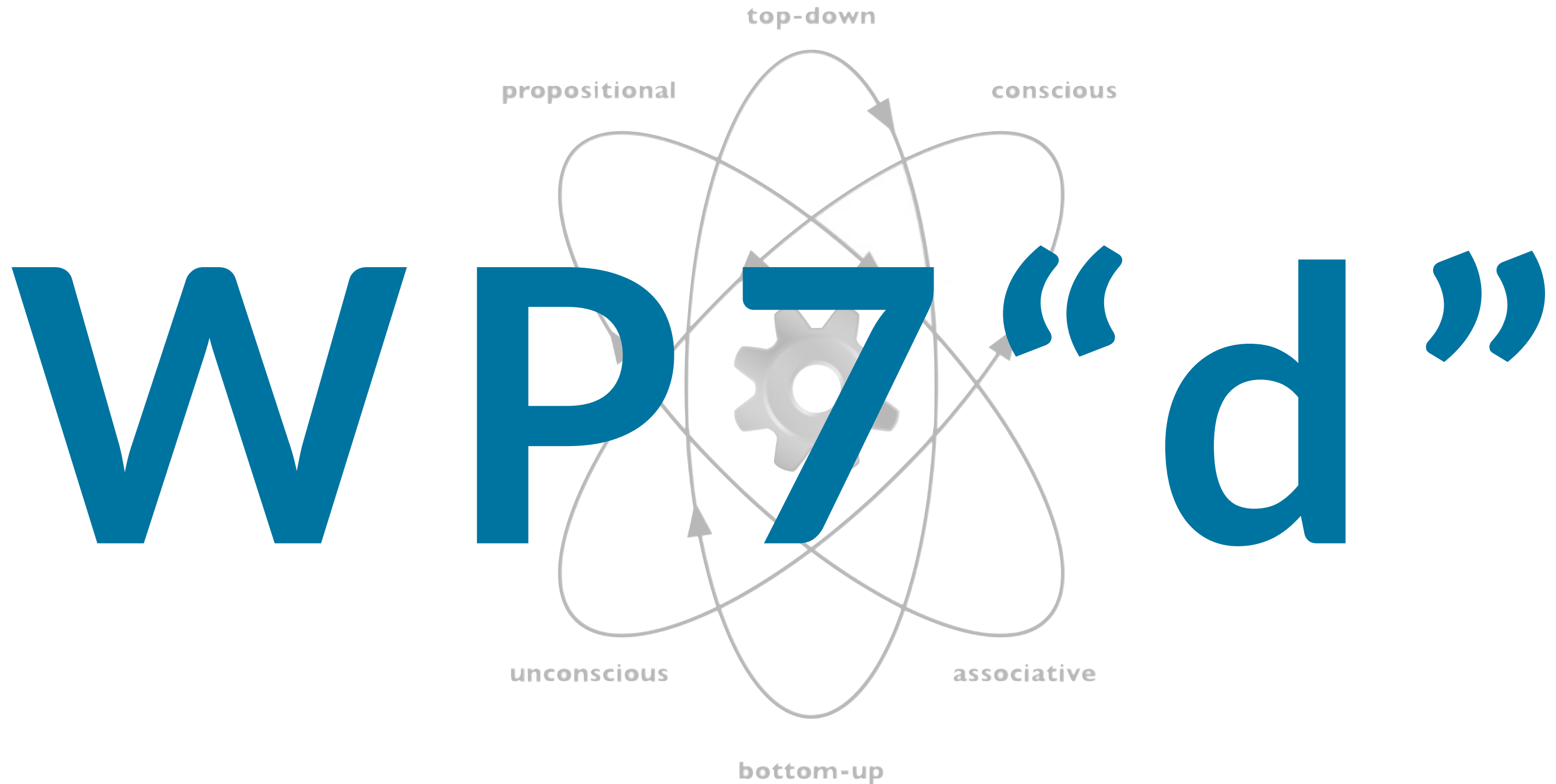


EXPERIMENT 1 - RESULTS

4 Conditions:

- Active congruent
INTERMEDIARY NORMAL CAUSAL CHAIN
- Active incongruent
INTERMEDIARY DEVIANT CAUSAL CHAIN
- Passive congruent
INTERMEDIARY NORMAL CAUSAL CHAIN





WP7 “d”

Irene Cogliati Dezza



Ph.D. Student



Research

Irene Cogliati Dezza is a PhD student supported by UNI fellowship. She studies human decision-making in the light of exploration vs. exploitation dilemma. Her main interest is focused on decisional processes, executive functions and consciousness interaction in the dilemma, in both healthy adults and in addictive behaviours. She is also working on computational models simulating decision-making networks.

DISCUSSION

