The 10th World Mismatch Negativity Conference

(MMN2024)

	Tuesday 17 th	Wednesday 18 th	Thursday 19 th
8:45-9:00	opening ceremony		
9:00-10:00	keynote#1 Csépe	Keynote #2 Hamm	Keynote #3 Schröger
10:00-11:30	SYMP #1 Englitz	SYMP #5 Ayala & Eliades	SYMP #10 Jacobsen & Ylinen
11:30-12:00	coffee break	coffee break	coffee break
12:00-13:30	SYMP #2 Winkler	SYMP #6 Calcus & Uhler SYMP #7 Kreegipuu	SYMP #11 Salisbury SYMP #12 Blankenburg & von der Behrens
13:30-15:00	Lunch/POSTERS	Lunch/POSTERS	Lunch/POSTERS
15:00-16:30	SYMP #3 Zatorre & Coffey	SYMP #8 Faes & Enan	SYMP #13 Yabe
16:30-16:45	coffee break	coffee break	SPECIAL TRIBUTE SYMP RISTO NÄÄTÄNEN CLOSING REMARKS
16:45-18:15	SYMP #4 Alain	SYMP #9 Bidet-Caulet & Caclin	

8:45 - 9:00 Open ceremony

9:00-10:00 Keynote

"The many faces of MMN"

Lecturer: Valeria Csépe

Hungarian Academy of Science. Hungary

09:00-10:30 Symposium 1

New Insight into the Physiological Basis of Predictive Processing.

Chairperson: Bernhard Englitz

Department of Computational Neuroscience Laboratory. Department of

Neurophysiology. Donders Centre of Neuroscience. Nijmegen, The Netherlands.

Talk 1: Cortical neuronal circuits for adaptation

Maria Geffen. University of Pennsylvania. USA

Talk 2: Sequential maturation of deviance detection in the mouse central auditory system.

Tania Rinaldi Barkat. Department of Biomedicine of the University of Basel. Switzerland

Talk 3: The representation of mismatch responses across the auditory cortex of mice.

Bernhard Englitz. Computational Neuroscience Laboratory. Department of Neurophysiology. Donders Centre of Neuroscience. Nijmegen, The Netherlands.

Talk 4: Temporal prediction as a sensory processing principle.

Nicol Harper. Department of Physiology, Anatomy and Genetics. University of Oxford. UK

12:00-13:30 Symposium 2

Prediction permeates sound processing in the human brain.

Chairperson: Itsván Winkler.

Institute of Cognitive Neuroscience and Psychology. Research Centre for Natural Sciences Hungary

Talk 1: Auditory streams in perception – source and action representations in cognition.

István Winkler. Institute of Cognitive Neuroscience and Psychology, Research Centre for Natural Sciences, HUN-REN, Hungary

Talk 2: What does different temporal sensitivity teach us about the tracking of pattern repetitions and deviations?

Juanita Todd. Newcastle University. Australia

Talk 3: Is the auditory system a "smart" statistical learner?

Maria Chait. Ear Institute. Institute of Cognitive Neuroscience. University of London. UK

Talk 4: Hierarchical probabilistic inference for accurate prediction

Florent Meyniel. INSERM-CEA Cognitive Neuroimaging unit. CEA/SAC/DRF/I2BM/Neurospin center. France

15:00-16:30 Symposium 3

Cortical and subcortical mechanisms in auditory processing and prediction.

Chairperson/s : Robert Zatorre¹ and Emily Coffey².

1 International Laboratory for Brain, Music and Sound Research (BRAMS), McGill University, Montreal, Quebec. Canada

2 Concordia University

Talk 1: Cortical-subcortical interactions to violations of auditory predictions measured with 7T functional MRI

Alberto Ara. McGill University. Canada

Talk 2: Belief updating in the absence of sensory input in the human auditory midbrain and thalamus.

Alejandro Tabas. Cambridge University and Basque Center on Cognition, Brain & Language. Germany & Spain

Talk 3: Two prediction error systems in the nonlemniscal inferior colliculus: "spectral" and "non-spectral"

Guillermo Carbajal. CANELAB. University of Salamanca. Spain

Talk 4: Flexible and efficient representations through predictions in the macaque face-processing hierarchy

Carles Escera. University of Barcelona. Spain

Talk 5: Is there a tiny predictive coding mechanism hidden within frequency encoding?

Emily B J Coffey. Concordia University. Canada

16:45-18:15 Symposium 4

Neuroscience of Music: From Perception to Cognition.

Chairperson: Claude Alain.

Rotman Research Institute, Baycrest Centre

Talk 1: Statistical Leaning of Novel Chord Transition Patterns in Adult Nonmusicians: An MMN Study

Kai Ishida. School of Human Sciences, Osaka University. Japan

Talk 2: Pattern Separation in Musicians and Non-Musicians: Is Sensory Discrimination Associated with Episodic Memory?

Jennifer A. Bugos. Center for Music Education Research, University of South Florida. USA

Talk 3: Alpha oscillation after correcting for aperiodic activity reveals the effect of music training on cognitive aging.

Jing Lu. School of Life Science and Technology, University of Electronic Science and Technology of China. China

Talk 4: Music Training and the Deployment of Attention: Evidence from an Auditory Attentional Blink Paradigm.

Claude Alain. Rotman Research Institute, Baycrest Centre. Canada

Day2 Wednesday 18th, September 2024

9:00-10:00 Keynote

"A cortical circuit for visual mismatch responses"

Lecturer: Jordan Paul Hamm

Neuroscience Institute Georgia State University. USA

10:00-11:30 Symposium 5

Prediction in action: probing error and prediction signals in single-neurons during active sensation.

Chairperson/s: Yaneri A. Ayala¹ and Steven J. Eliades².

1 Department of Neurosurgery, University of Iowa, USA.

2 Duke University School of Medicine, Durham, NC USA.

Talk 1: Vocal Sensory-Prediction and Error Mechanisms in Marmoset Auditory Cortex.

Steven J Eliades. Department of Head and Neck Surgery & Communication Sciences. Departments of Neurobiology, Biomedical Engineering. Duke University School of Medicine. Durham. NC USA.

Talk 2: A sensory-motor circuit links action to expected outcome.

David M. Schneider. Center for Neural Science, New York University. USA

Talk 3: Multimodal mismatch responses in the mouse auditory cortex.

Magdalena Solyga. Institute for Biomedical Research, Basel, Switzerland. Faculty of Science, University of Basel, Basel, Switzerland.

Talk 4: Single neuron activity in the human and non-human primate brain to unexpected events.

Yaneri A. Ayala. Department of Neurosurgery, University of Iowa, USA. Laboratory of Comparative Neuropsychology, Newcastle University, UK.

12:00-13:30 Symposium 6

Mismatch responses in populations with developmental disorders.

Chairperson: Axelle Calcus¹ and Kristin Uhler².

1 Center for Research in Cognition & Neurosciences. Université Libre de Bruxelles. Belgium 2 Department of Physical Medicine and Rehabilitation. University of Colorado.

USA

Talk 1: Basic determinants of MMN elicitation in simple and complex listening environments during neurotypical development.

Elyse Sussman. Albert Einstein College of Medicine. USA

Talk 2: Development among infants with hearing differences auditory access.

Kristin Uhler. Department of Physical Medicine and Rehabilitation. University of Colorado. USA

Talk 3: Comparing Mismatch Responses to Speech in Typical and Atypical Language Development versus Adult's MMNs using Intertrial Phase Coherence.

Ana Campos. University of Bolton.

Talk 4: Effect of childhood hearing loss on subcortical and cortical processing of speech.

Axelle Calcus. Center for Research in Cognition & Neurosciences (CRCN). Université Libre de Bruxelles (ULB).

12:00-13:30 Symposium 7 vMMN - The Poor Relative of MMN?

Chairperson : Kairi Kreegipuu.

Institute of Psychology. University of Tartu. Estonia

Talk 1: The more complex the better? – Visual change detection at different levels of complexity.

Dagmar Müller. Arbetsförmedlingen (Swedish Public Employment Service)

Talk 2: Investigating the Contribution of Visual MMN to Posterior Negativity in Processing Geometrical Shape Deviants. Ann-Kathrin Beck. University Kaiserslautern-Landau, Germany.

Talk 3: The roles of stimulus-specific adaptation and micro-sequences in visual mismatch negativity: Are there any?

Lili Kővári. Research Centre for Natural Sciences, Institute of Cognitive Neuroscience and Psychology. Hungary

Talk 4: What are the relationships associated with a simple vMMN for letters?

Kairi Kreegipuu. University of Tartu. Estonia

15:00-16:30 Symposium 8

Insights into Predictive Perception: Understanding the Role of Context

Chairperson: Lonike Faes and Mahdi Enan.

Faculty of Psychology and Neuroscience Maastricht University

Talk 1: Predictive processing in context.

Ryszard Auksztulewicz. Free University Berlin

Talk 2: Exploring Predictive Auditory Processing Using High-Field fMRI and MEG.

Federico de Martino. Maastricht University. The Netherlands.

Talk 3: Pre-stimulus alpha oscillations encode stimulus-specific visual predictions.

Dorottya Hetenyi. Neuronal Oscillations Group. University of Birmingham. UK

Talk 4: Flexible and efficient representations through predictions in the macaque face-processing hierarchy.

Tarana Nigam. German Primate Center; European Neuroscience Institute; IMPRS Neuroscience. Göttingen. Germany

16:45-18:15 Symposium 9

Processing of predictable and non-predictable melodic and rhythmic sequences.

Chairperson: Bidet-Caulet Aurélie and Caclin Anne.

Lyon Neuroscience Research Center

Talk 1: What are the neural mechanisms of temporal prediction in probabilistic sensory contexts?

Pierre Bonnet. Lyon Neuroscience Research Center (CRNL), Computation, Cognition and Neurophysiology team (Cophy), Lyon, France

Talk 2: The influence of tempo on neural encoding of rhythmic hierarchy in premature newborns.

Mohammadreza Edalati. Institut National de la Santé et de la Recherche Médicale, Unité Mixte de Recherche 1105, Groupe de Recherches sur l'Analyse Multimodale de la Fonction Cérébrale (GRAMFC), Université de Picardie, 80054 Amiens, France

Talk 3: Musical expectations and neural error responses in natural music listening.

Paul Robert. Institut de Neurosciences des Systèmes, Aix-Marseille Université, Inserm UMR 1106, Marseille, France

Talk 4: Musical expectations in human and non-human primates.

Roberta Bianco. Italian Institute of Technology, Rome, Italy

Day3 Thursday 19th, September 2024

9:00-10:00 Keynote

"A framework for MMN theory and a taxonomy for MMN paradigms" Lecturer: Erich Schröger

Wilhelm Wundt Institut für Psychologie. Universität Leipzig. Germany.

10:00-11:30 Symposium 10 Language

Chairpersons: Thomas Jacobsen¹ and Sari Ylinen².

1 Experimental Psychology Unit, Helmut Schmidt University. Germany

2 University of Helsinki. Helsinki

Talk 1: Incorporating more phonetic contrasts into bilingualism and language learning research: Can MMN be made more efficient?

Begoña Pericas Herrero. Dept. of Speech, Hearing and Phonetic Sciences, University College London. UK

Talk 2: What kind of mental representation does varying standards MMN give rise to?

Arild Hestvik. University of Delaware. USA

Talk 3: Effects of language environment on auditory neurocognition.

Mari Tervaniemi. Brain Research Unit, Centre of Excellence in Music, Mind, Body and Brain, Faculty of Educational Sciences, University of Helsinki

Talk 4: Establishing neural representation for new word forms in 12-month-old infants.

Sari Ylinen. Cognitive Brain Research Unit, Centre of Excellence in Music, Mind, Body and Brain, Department of Psychology and Logopedics, Faculty of Medicine, University of Helsinki, Helsinki, Finland

12:00-13:30 Symposium 11 New Approaches to MMN Measures in Psychosis	12:00-13:30 Symposium 12 Somatosensory MMN, prediction error and surprise.	
Chairperson: Dean F Salisbury.	Chairperson: Felix Blankenburg ¹ and	
Clinical Neurophysiology Research Laboratory, Western Psychiatric Hospital, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA	Wolfger von der Behrens². 1 Freie Universität Berlin 2 University of Zurich and ETH Zurich	

Talk 1: Selective Dysfunction of NMDA Receptor in First Episode Psychosis as Revealed by Computational Synaptic Modeling of Mismatch Negativity.

Fran López-Caballero. Clinical Neurophysiology Research Laboratory, Pittsburgh, USA

Talk 2: Children at familial high risk of schizophrenia and bipolar disorder exhibit altered connectivity patterns during pre-attentive processing of an auditory prediction error.

Kit Melissa Larsen. Copenhagen University Hospital. Denmark

Talk 3: Abnormal inter-hemispheric effective connectivity from left to right auditory regions during Mismatch Negativity (MMN) tasks in psychosis. Christian Valt. Univ of Bari Aldo, Italy

Talk 4: Volatility effects on group differences in MMN in schizophrenia. Matthew Godfrey. University of Newcastle, Australia

Talk 5: Stream segregation and temporal integration in psychosis. Ken Suzutani. Fukushima Medical University, Fukushima, Japan

Talk 1: Somatosensory Errors and Surprise shape Cortical Circuit Activity and Perception.

Wolfger von der Behrens. University of Zurich and ETH Zurich. Switzerland

Talk 2: Modeling mismatch responses across the somatosensory, visual, and auditory domain.

Miro Grundei. Freie University of Berlin. Germany

Talk 3: Dynamics of the Somatosensory Mismatch Response Across Ages: Insights from EEG and MEG Studies.

Piia Astikainen. University of Jyvaskyla. Finland.

Talk 4: Action-related omission responses in the somatosensory modality.

Nicole Wetzel. Center for Behavioral Brain Sciences, Magdeburg, Germany

16:45-18:15 Symposium 13

Significance and usefulness of omission MMN research.

Chairperson: Hirooki Yabe.

Department of Mind & Brain medicine. Fukushima Medical University (FMU). Japan.

Talk 1: Conditions for omission MMN generation and its research significance.Hirooki Yabe. Fukushima Medical University. Japan

Talk 2: Prediction-Related Frontal-Temporal Network for Omission Mismatch Activity in the Macaque Monkey.

Takanori Uka. Juntendo University, Tokio. Japan

Talk 3: Neuronal Responses to Omitted Tones in the Auditory Brain: A Neuronal Correlate for Predictive Coding.

Ana Belén Lao-Rodríguez. CANELAB. University of Salamanca. Spain

16:45-18:15

SPECIAL TRIBUTE SYMPOSIUM TO RISTO NÄÄTÄNEN

Talk 1: Teija Kujala

Preattentive language processing and its deficits in developmental language dysfunctions.

Professor. Cognitive Brain Research Unit Centre of Excellence in Music, Mind, Body and Brain Department of Psychology and Logopedics Medicum, Faculty of Medicine University of Helsinki. Finland

Talk 2: Leon Y. Deouell

What can we learn from the variety of mismatch responses across the brain?

"Jack H. Skirball Professor" Brain Research Department of Psychology Edmond and Lily Safra Center for brain sciences (ELSC)

The Hebrew University of Jerusalem. Israel

Talk 3: Elvira Brattico

"MMN for studying musical predictions in the brain"

Center for Music in the Brain, Department of Clinical Medicine, Aarhus University, Denmark

Department of Education, Psychology, Communication, University of Bari, Italy

Talk 4: Paula Virtala

Mismatch responses from infancy to childhood and their relationship with language abilities

PhD. Academy of Finland Centre of Excellence for Music, Mind, Body, and the Brain Cognitive Brain Research Unit

Department of Psychology and Logopedics Faculty of Medicine

University of Helsinki. Finland

Talk 5: Israel Nelken

From single neurons to mismatch negativity – analogies, homologies, and gaps.

Proffesor. Edmond and Lily Safra Center for Brain Sciences Goodman Building, Edmond J. Safra Campus, Givat Ram Jerusalem 9190401, ISRAEL

Talk 6: Gregory Light

MMN as a Biomarker: Developing Innovative Treatments for Schizophrenia in Global Clinical Trials

Proffesor. UCSD Department of Psychiatry.

Director of the Mental Illness, Research, Education and Clinical Center (MIRECC) at the VA San Diego Healthcare System. USA

CLOSING REMARKS