

GENEVA UNIVERSITY NEUROCENTER



**UNIVERSITÉ
DE GENÈVE**

**MASTER IN NEUROSCIENCE
UNIVERSITY OF GENEVA**

NEUROMASTER DAY 2019

DECEMBER 13TH, 2019

CAMPUS BIOTECH – 14.00 -18 PM

PROGRAM AND **A**BSTRACTS

MASTER IN NEUROSCIENCE UNIVERSITY OF GENEVA NEUROMASTER DAY

DECEMBER 13TH, 2019

The Geneva University Neurocenter is pleased to welcome you to the fourth NeuroMaster Day.

This event aims at providing to each Master student in Neuroscience at UNIGE a feedback about his/her research work and at offering him/her a training to different scientific communication abilities (poster, talk, team work).

This year a workshop titled "Build your research project" is also organized. Students will work in subgroups on a review, raise a scientific question from this review and build an experimental protocol to investigate this question, under the supervision of advanced researchers. Each group will present its work (open to everyone). Drinks and snacks will be served throughout the event. The event will be ended by the awarding of the best talk, the best research project presentation, the best tutor and the best student of the year.

We are looking forward to seeing you and wish you to enjoy this event!

The organizing committee

Delphine Jochaut, Denis Jabaudon, Mona Spiridon

Program

12:00-14:00 Workshop "Build your research project" preparation (only for students and their tutors).

14:00-14:30 Talks (2 talks – 10 minutes + 5 minutes questions) – Auditoire (H8)

14:30 Presentation of the AENG-GNSA (Geneva Neuroscience Students Association) and opening of the buffet (Auditoire H8)

14:45-15:45 Poster session 1 (odd numbers) (Hall H8)

15:45-16:45 Workshop, presentations

Topics Alzheimer disease and Multisensory perception: Auditoire (H8)

Topics Autism and Emotions and memories: H8-01D

16:45-17:45 Poster session 2 (even numbers) (Hall H8)

17:45 Prizes

TALKS

The oral presentations will be held in the Auditoire at Campus Biotech.

14:00 Elifnaz Gecer

14:15 Andres Rodriguez

14:30 Presentation of the AENG-GNSA (Geneva Neuroscience Students Association)

ELIFNAZ GECER

Title: The Impact of Sleep Stages and Sleep Electrophysiological Events on Heart-Evoked Potentials

Elifnaz Geçer¹, Johara Valente¹, Guillaume Legendre¹, Sylvain Delplanque², Isabelle Cayeux³, Sophie Raviot-Derrien⁴, Virginie Sterpenich¹ and Sophie Schwartz¹

¹ Neuroimaging of Sleep and Cognition Laboratory, Department of Basic Neuroscience, Faculty of Medicine, University of Geneva

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Abstract: The majority of the literature on EEG studies focuses on how the brain processes external stimuli^[1]. On the other hand, the relationship between the brain and its visceral inputs is also an interesting and important direction. Cardiac activity is an example of the visceral signals and Heart Evoked Potentials (HEPs) are the brain responses to heartbeats. The amplitude of HEP is found to be modulated by various processes such as interoceptive attention, processing of the emotional stimuli^{[2][3]}, bodily self, and self-related cognition^[4]. In this regard, it is being hypothesized that HEPs may be involved in the generation of the unified viewpoint of consciousness^[1]. To test this hypothesis sleep is a good model because it consists of several sleep stages which have different consciousness levels. The aim of this study is to investigate the impacts of level of consciousness and sleep electrophysiological events on HEPs. We investigated HEPs of 24 healthy participants recorded by high density EEG from a night's sleep. The results show that there is indeed a significant difference in HEPs across sleep stages N2, N3, REM and wakefulness condition which is at rest. We found distinctly high HEP amplitude in REM sleep compared to other conditions. This difference can be due

to the vivid nature of conscious experiences of REM sleep in contrast with wakefulness at rest. These novel findings indicate that cardiac activity is processed differently by the brain across wakefulness and sleep stages and the HEPs can be a marker of consciousness levels.

References

- [1] Azzalini, Damiano, Ignacio Rebollo, and Catherine Tallon-Baudry. (2019). "Visceral signals shape brain dynamics and cognition." Trends in cognitive sciences
- [2] Couto, B. et al. (2015) Heart evoked potential triggers brain responses to natural affective scenes: a preliminary study. Auton.Neurosci. 193, 132–137
- [3] Fukushima, H. et al. (2011) Association between interoception and empathy: evidence from heart-beat evoked brain potential.Int. J. Psychophysiol. 79, 259–265
- [4] Park, H.D. et al. (2016) Transient modulations of neural responses to heartbeats covary with bodily self-consciousness. J. Neurosci. 36, 8453–8460

ANDRES RODRIGUEZ

CoAuthors and affiliations: tba

Title: Developing *in vivo* Luciferase tools to examine neuronal survival and activity in *Drosophila*

Andres Rodriguez¹, Rafael Koch¹, Emi Nagoshi¹

¹Department of Genetics and Evolution (GENEV), Faculty of Sciences, Geneva University, Switzerland

Abstract: Bio-luminescent enzymes have been an important addition to the genetic toolkit of *Drosophila melanogaster*, enabling researchers to work with live flies and record neuronal activity. Development of a novel, synthetically engineered Luciferase enzyme – Akaluc, with its corresponding substrate, Akalumine – previously showed promising performance in mice over the conventional enzymes, Renilla and Firefly Luciferase. However, this enzyme has not been developed for use in *Drosophila* and its enhanced properties make it a desirable candidate.

Thus we aim to translate the novel enzyme for *Drosophila* through genetic manipulation to characterize and compare its unique expression. We also aim to utilize the Luciferase tool to quantitatively measure PAM neuronal survival in fly models of Parkinson's Disease; in heterozygous and homozygous Fer² flies.

Using *in-silico* genetic modeling, Gibson assemblies, and PCR, genetic plasmids were generated containing the Luciferase genetic sequences under the control of various tissue-specific drivers. We measured the bio-luminescent output of live Akaluc-flies using a luminometer plate reader, recording over 2 days varying substrate concentrations and ambient temperature.

These bio-luminescent recordings of Akaluc flies demonstrate a peak of luminescent activity at low concentrations, less than optimal compared to Firefly Luciferase recordings. As a result, Firefly Luciferase is better suited to continue the on-going experiments for neuronal degeneration.

The results indicate that Akaluc, in its current state, is not a more suitable tool for *in vivo* imaging albeit functioning at a lower scale. We continue to work on other Luciferase reporter lines to track the degeneration of PAM neurons in live *Drosophila*.

WORKSHOP

BUILD YOUR RESEARCH PROJECT

Presentations : Auditoire H8, 15:45-16:45

Students will work in subgroups on different reviews on a particular topic, raise a scientific question from these reviews and build an experimental protocol to investigate this question, under the supervision of advanced researchers. Each group will present its work (open to everyone).

Thanks to all volunteers advanced researchers to help Master students in this work : **Alison Montagrin, Swann Pichon, Itsaso Olasagasti, Silvia Marchesotti, Ronan Chéreau, Stefano Musardo, Sabine Fièvre, Cristina Berchio, Benoît Girard, Laura Frangeul.**

TOPIC 1: EMOTIONS AND MEMORIES

Instructions:

Based on the available literature, design an experiment to identify circuit/network mechanisms through which emotions can affect memories in a mouse model or in a human being.

Preparation time: 2 hours

You will present your work in 10 minutes: Introduction of scientific context, Presentation of hypotheses and Proposed experiment.

Tutors: Swann, Alison

Groups 1, 2

References

- Consolidating memories, McGaugh JL¹, Annu Rev Psychol. 2015 Jan 3;66:1-24. doi: 10.1146/annurev-psych-010814-014954.
- The slow forgetting of emotional episodic memories: an emotional binding account, Yonelinas AP, Ritchey M., Trends Cogn Sci. 2015 May;19(5):259-67. doi: 10.1016/j.tics.2015.02.009. Epub 2015 Mar 30.

TOPIC 2: MULTISENSORY PERCEPTION

Instructions:

Based on the available literature, design an experiment to identify circuit/network mechanisms at play during multisensory perception in a mouse model and in a human being.

Preparation time: 2 hours

You will present your work in 10 minutes: Introduction of scientific context, Presentation of hypotheses and Proposed experiment.

Tutors: Itsaso, Silvia, Ronan
Groups 3, 4, 5

References

Group 3:

- Metacognition in Multisensory Perception., Deroy O¹, Spence C², Noppeney U³., Trends Cogn Sci. 2016 Oct;20(10):736-747. doi: 10.1016/j.tics.2016.08.006. Epub 2016 Sep 6.
- The Ventriloquist Illusion as a Tool to Study Multisensory Processing: An Update. Bruns P¹. Front Integr Neurosci. 2019 Sep 12;13:51. doi: 10.3389/fnint.2019.00051. eCollection 2019.

Group 4:

- Metacognition in Multisensory Perception., Deroy O¹, Spence C², Noppeney U³., Trends Cogn Sci. 2016 Oct;20(10):736-747. doi: 10.1016/j.tics.2016.08.006. Epub 2016 Sep 6.
- Multisensory brain mechanisms of bodily self-consciousness, Blanke O., Nat Rev Neurosci. 2012 Jul 18;13(8):556-71. doi: 10.1038/nrn3292. Review.

Group 5:

- Metacognition in Multisensory Perception., Deroy O¹, Spence C², Noppeney U³., Trends Cogn Sci. 2016 Oct;20(10):736-747. doi: 10.1016/j.tics.2016.08.006. Epub 2016 Sep 6.
- The posterior parietal cortex as integrative hub for whisker sensorimotor information., Mohan H, de Haan R, Mansvelder HD, de Kock CP, Neuroscience. 2018 Jan 1;368:240-245. doi: 10.1016/j.neuroscience.2017.06.020. Epub 2017 Jun 19.

TOPIC 3: ALZHEIMER DISEASE

Instructions:

Based on the available literature, come up with a meaningful and testable hypothesis regarding the cellular, molecular and/or cognitive processes at play in Alzheimer's disease. Based on this hypothesis, design an experiment that could be used to develop a disease-modifying therapy, in a mouse model or in a human being.

Preparation time: 2 hours

You will present your work in 10 minutes: Introduction of scientific context, Presentation of hypotheses and Proposed experiment.

Tutors: Stefano, Sabine
Groups 6, 7

References

- Alzheimer Disease An Update on Pathobiology and Treatment Strategies, Justin M.Long David M.Holtzman, *Cell*. 2019 Oct 3;179(2):312-339. doi: 10.1016/j.cell.2019.09.001. Epub 2019 Sep 26
- Synaptic dysfunction in Alzheimer's disease: From the role of amyloid β -peptide to the α -secretase ADAM10, Musardo S¹, Marcello E²., Eur J Pharmacol. 2017 Dec 15;817:30-37. doi: 10.1016/j.ejphar.2017.06.018. Epub 2017 Jun 16.

- Amyloid- β and tau complexity toward improved biomarkers and targeted therapies. Polanco JC, Li C, Bodea LG, Martinez-Marmol R, Meunier FA, Götz J., Nat Rev Neurol. 2018 Jan;14(1):22-39. doi: 10.1038/nrneurol.2017.162. Epub 2017 Dec 15.

TOPIC 4: BRAIN NETWORK DYSFUNCTIONS IN AUTISM

Instructions:

Based on the available literature, design an experiment to identify molecular and circuit/network mechanisms at play in autism in a mouse model or a human being.

Preparation time: 2 hours

You will present your work in 10 minutes: introduction scientific context, hypotheses and protocol.

Tutors: Cristina, Benoît, Laura

Groups 8, 9, 10

References

Groupe 8:

- Transdiagnostic neuroimaging in psychiatry: A review, Mitelman SA., Psychiatry Res. 2019
- Malformations of Cerebral Cortex Development: Molecules and Mechanisms, Gordana Juric-Sekhar^{1,2} and Robert F. Hevner^{1,2,3,4}, Annu. Rev. Pathol. Mech. Dis. 2019. 14:293–318
- Malformations of Human Neocortex in Development – Their Progenitor Cell Basis and Experimental Model Systems, Pinson A¹, Namba T¹, Huttner WB¹. Front Cell Neurosci. 2019

Groupe 9:

- Transdiagnostic neuroimaging in psychiatry: A review, Mitelman SA., Psychiatry Res. 2019
- Mechanisms for the Approach/Avoidance Decision Applied to Autism, Pfaff D, Barbas H, Trends Neurosci. 2019 Jul;42(7):448-457. doi: 10.1016/j.tins.2019.05.002.

Group 10:

- Transdiagnostic neuroimaging in psychiatry: A review, Mitelman SA., Psychiatry Res. 2019
- Mechanisms of facial emotion recognition in autism spectrum disorders: Insights from eye tracking and electroencephalography, Melissa H. Blacka, Nigel T.M. Chen, Kartik K. Iyere, Ottmar V. Lippb, Sven Böltea, Marita Falkmera, Tele Tanb, Sonya Girdlera, Neurosci Biobehav Rev. 2017 Sep;80:488-515. doi: 10.1016/j.neubiorev.2017.06.016. Epub 2017 Jul 8.

POSTERS

Posters with odd numbers will be presented during the first poster session from 14:45 to 15:45. Posters with even numbers will be presented during the second poster session from 16:45 to 17:45. The poster sessions will take place in the hall H8 of Campus Biotech.

Poster number	First author	Title	Co-authors	Affiliations
1	ALI Lna	Can rhythmic priming influence syntactic processing in typical adults?	Ali Lna ¹ , György Dávid ¹ , Bavelier Daphné ¹ , Franck Julie ¹	¹ Faculty of Psychology and Education Sciences, University of Geneva, Geneva, Switzerland.
2	ALMATO Marina	Anosognosia for unilateral spatial neglect: explicit and implicit knowledge of neglected errors	Almató Marina ¹ , Iturrate Iñaki ³ , Delplanque Sylvain ⁴ , Vuilleumier Patrik ¹ , Ronchi Roberta ^{1,2}	¹ Laboratory for Behavioural Neurology and Imaging of Cognition, Department of Fundamental Neurosciences, Faculty of Medicine, University of Geneva, Switzerland ² Neurology Division, Department of Clinical Neurosciences, Geneva University Hospital, Geneva, Switzerland ³ Human Cortical Physiology Section, NINDS, USA ⁴ Swiss Center for Affective Sciences at the University of Geneva
3	AMERI Mohammad Milad	The effect of the stability of inflation rate on temporal discounting rate	Mohammad Milad Ameri ¹ , Kerstin Preuschoff ^{1,2}	¹ Swiss Center for Affective Sciences at the University of Geneva ² Geneva Finance Research Institute at the University of Geneva
4	AMIR Suje	White matter integrity in schizotypal subjects	Amir Suje ^{1,2} , Derome Mélodie ^{1,2} , Debbané Martin ^{1,2,3}	¹ Developmental Clinical Psychology Research Unit, Faculty of Psychology and Educational Sciences, University of Geneva, Switzerland ² Developmental Neuroimaging and Psychopathology Laboratory, Department of Psychiatry, University of Geneva, Switzerland ³ Research Department of Clinical, Educational & Health Psychology, University College London, United Kingdom

5	ANGUE Lauriane	Impact of Pulvinar Lesion on Attentional Processes	Angué Lauriane ¹ , Guedj Carole ¹ , Vuilleumier Patrik ¹	¹ Department of Fundamental Neurosciences, Laboratory for Neurology and Imaging of Cognition, University Medical Center, Geneva, Switzerland
6	ANNEN Lucie	Investigating Anatomical Brain Connectivity in Children at Risk for Eating Disorders	Annen Lucie ¹ , Neveu Remi ¹ , Bouamoud Ynès ¹ , Menetre Freda ¹ , Berchio Cristina ¹ , Pappaianni Edoardo ¹ , Borsarini Bianca ¹ , Micali Nadia ¹	¹ Department of Child and Adolescent Psychiatry, University Hospitals of Geneva / HUG. University of Geneva.
7	AUTHIAT DE ALMEIDA TEIXEIRA MACIEL Marcella	BARD1 and BRCA1 interaction in PS1-P117L Alzheimer's cell model versus wild-type SH-SY5Y cells	Authiat M. Marcella ¹ , Marin Pascale ² , Savioz Armand ²	¹ University of Geneva, Faculty of Medicine, Master in Neurosciences ² Geneva University Hospitals, Department of Psychiatry, Unit of Biomarkers
8	AVDULLA Fransuela	Perception of verticality in healthy subjects and patients with vestibulopathy	Avdulla Fransuela ^{1,2} , Boutabla Anissa ^{1,2} , Cavuscens Samuel ^{1,2} , Ranieri Maurizio ^{1,2} , Guinand Nils ¹ , Perez-Fornos Angelica ^{1,2}	¹ Division of Otorhinolaryngology Head and Neck Surgery, Department of Clinical Neurosciences, Geneva University Hospitals, Geneva, Switzerland ² University of Geneva, Faculty of Medicine, Geneva, Switzerland
9	BORGHESE Francesca	Using sleep and exposure to treat social anxiety	Borghese Francesca ¹ , Henckaerts Pauline ¹ , Sterpenich Virginie ^{1,2} , Perogamvros Lampros ^{1,2,3} , Schwartz Sophie ^{1,2}	¹ Sleep and Cognition Lab, Department of Basic Neurosciences, Faculty of Medicine, Geneva University, Switzerland ² Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland ³ Center for Sleep Medicine, Division of Pulmonology, Department of Medicine, Geneva University Hospitals, Geneva, Switzerland
10	BORTOLIN Karin	Deep learning assisted attenuation correction in brain PET/MR imaging	Bortolin Karin ¹ , Arabi Hossein ¹ , Zaidi Habib ¹	¹ Division of Nuclear Medicine and Molecular Imaging, Geneva University Hospital, Geneva, Switzerland ² Department of Nuclear Medicine and Molecular Imaging, University of Groningen, Groningen, Netherlands ³ Department of Nuclear Medicine, University of Southern Denmark, Odense, Denmark
11	BOUAMOUD Ynès	Investigating Neural differences in Decision-making process in Children at risk for Eating Disorders	Bouamoud Ynès ¹ , Neveu Remi ¹ , Annen Lucie ¹ , Menetre Freda ¹ , Berchio Cristina ¹ , Pappaianni Edoardo ¹ , Borsarini Bianca ¹ , Micali Nadia ¹	¹ Department of Child and Adolescent Psychiatry, University Hospitals of Geneva / HUG. University of Geneva.
12	BOUTELDJA Farha	Characterization and cellular origin of the 18kDa Translocator-protein in neuro-inflammation	Bouteldja Farha ^{1,2} , Tournier Benjamin ¹ , Millet Philippe ^{1,2}	¹ Division of Adult Psychiatry, Department of Psychiatry, University Hospitals of Geneva, Switzerland ² Department of Psychiatry, University of Geneva, Switzerland

13	CECCONI Michael	The Exercise Paradox	Cecconi Michael ^{1,2} , Alouf Fares ^{1,2} , Zimmermann Myriam Ophélie ^{1,2} , Sander David ^{1,2} , Cheval Boris ^{1,2,3}	¹ Faculty of psychology and education science, University of Geneva, Switzerland. ² Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland ³ Laboratory for the Study of Emotion Elicitation and Expression (E3Lab), Department of Psychology, University of Geneva, Geneva, Switzerland
14	CHATELAIN Marion	The effects of global and local perception of dynamic facial expressions on facial mimicry	Châtelain Marion ¹ , Skiba Rafal M. S ^{1,2} and Vuilleumier Patrik ^{1,2}	¹ Laboratory for Behavioural Neurology and Imaging of Cognition, Department of Basic Neuroscience, University of Geneva, 1211, Geneva, Switzerland ² Swiss Center for Affective Science, University of Geneva, Campus Biotech, 1202, Geneva, Switzerland
15	CILLER Patricia	Impairments in auditory object representations in early-phase psychosis	Ciller Patricia ¹ , Retsa, C. ^{1,2} , Knebel, JF. ^{1,2,3} , Geiser, E. ^{1,2} , Ferrari, C. ^{4,5} , Jenni, R. ^{4,5} , Fournier, M ⁴ , Alameda, L. ^{4,5,6} , Baumann, PS. ^{4,5} , Clarke, S. ^{1,2} , Conus, P. ⁵ , Kim Q. Do ⁴ , Murray Micah M. ^{1,2,3,7,8}	¹ The LINE (Laboratory for Investigative Neurophysiology), Radiodiagnostic Service, University Hospital Center and University of Lausanne, 1011 Lausanne, Switzerland ² Neuropsychology and Neurorehabilitation Service and Radiodiagnostic Service, University Hospital Center and University of Lausanne, 1011 Lausanne, Switzerland ³ The EEG Brain Mapping Core, Center for Biomedical Imaging (CIBM), University Hospital Center and University of Lausanne, 1011 Lausanne, Switzerland ⁴ Center for Psychiatric Neuroscience, Department of Psychiatry, University Hospital Center and University of Lausanne, Prilly-Lausanne, Switzerland ⁵ Service of General Psychiatry, Department of Psychiatry, University Hospital Center and University of Lausanne, Prilly-Lausanne, Switzerland ⁶ Psychiatric Liaison Service, Lausanne University Hospital (CHUV), Lausanne, Switzerland ⁷ Department of Ophthalmology, University of Lausanne, Fondation Asile des Aveugles, Lausanne, Switzerland ⁸ Department of Hearing and Speech Sciences, Vanderbilt University, Nashville, TN, USA
16	CUENO VELASCO Angie	Pacinian corpuscles, mechanoreceptors detecting high-frequency vibrations in mouse forelimb	Geraldine Cueno ¹ , Mario Prsa ² , Daniel Huber ¹	¹ Department of Basic Neurosciences, University of Geneva ² Medicine Section, University of Fribourg

17	DAVIS Marcus	The Influence of Curiosity and Awe: <i>Early Scientific Learning with Epistemic Emotions</i>	Davis Marcus ^{1,2,3} , Audrin Catherine ^{1,2,3,4} , Meuleman Ben ^{1,2,5} , David Rudrauf ^{1,2,5} , Sander David ^{1,2,3}	<p>¹ Swiss Center for Affective Science, University of Geneva, Campus Biotech, 1202, Geneva, Switzerland</p> <p>² Faculty of psychology and education science, University of Geneva, Switzerland.</p> <p>³ E3 Laboratory for the study of Emotion Elicitation and Expression Vulnerability, University of Geneva, Switzerland</p> <p>⁴ Haute Ecole Pédagogique Lausanne</p> <p>⁵ Laboratory for Multimodal Modelling of Emotion and Feelings</p>
18	DENKINGER Sylvie	New measures of Stereoscopic Vision	Denkinger Sylvie ¹ , Backus Benjamin ⁴ , Levi Dennis ³ , Chopin Adrien ^{1,2} , Bavelier Daphné ¹	<p>¹ Brain and Learning Lab, Faculty of Psychology, Geneva University, Switzerland</p> <p>² Aging in Vision and Action Lab, Vision Institute, CNRS – INSERM. UPMC, Paris, France</p> <p>³ School of Optometry, University of California, Berkeley</p> <p>⁴ Vivid Vision Labs, Vivid Vision Inc., California</p>
19	DUONG PHAN THANH Lea	Anosognosia for neurological illness: explicit and implicit knowledge of the disease	Duong Phan Thanh Léa ¹ , Fisch Anna ³ , Vocat Roland ⁴ , Ronchini Roberta ^{1,2} and Vuilleumier Patrik ¹	<p>¹ Laboratory for Behavioral Neurology and Imaging cognition, Department of Fundamental Neurosciences, Faculty of Medicine, Geneva, Switzerland</p> <p>² Neurology Division, Department of Clinical Neurosciences, Geneva University Hospital, Geneva, Switzerland</p> <p>³ Mograbi Lab, Department of Psychology, Rio de Janeiro, Brazil</p> <p>⁴ Neuropsychology Division, Sierre Hospital, Sierre, Switzerland</p>
20	ELBASSIOUNY Mai	Inflection VR: Climate Action Can VR be an Effective Tool in the Fight Against the Climate Crisis?	Elbassiouny Mai ¹ , Fornay C. ¹ , Hauck A. ¹ , Tisserand Y. ¹ , Brosch Tobias ² , Rudrauf David ²	<p>¹ MMEF Lab, Department of Psychology, University of Geneva</p> <p>² Consumer Decision and Sustainable Behavior Lab, Department of Psychology, University of Geneva</p>
21	ESCOBAR Luciana	Reversing atypical hippocampus development in preterm children: a stress model	Escobar Luciana ¹ , Siffredi Vanessa ¹ , Liverani Maria Chiara ¹ , Hüppi Petra ¹	¹ Department of Paediatrics, Gynaecology and Obstetrics, Division of Development and Growth, Geneva University Hospitals, Switzerland
22	FAUCHERE Audrey	The psychophysiological underpinnings of how affective states might impact value-based decision-making	Fauchere Audrey ¹ , Collette Sven ¹ , Lebreton Maël ² , Leitão Joana ¹ , Pool Eva ² , Vuilleumier Patrik ¹	<p>¹ Department of Basic Neuroscience, Laboratory for Behavioral Neurology and Imaging of Cognition, University of Geneva, Geneva, Switzerland</p> <p>² Psychology Department, Swiss Center for Affective Science, University of Geneva, Geneva, Switzerland</p>

23	FILLEBEEN Julie	Influence of individual cognitive vulnerability to sleep loss on pain processing	Fillebeen Julie ¹ , Fournier Raphaël ² , Riontino Laura ^{1,2,3,4} , Corradi-Dell'Acqua Corrado ^{2,4} , Schwartz Sophie ^{1,3,4}	¹ Faculty of Medicine, University of Geneva, CH-1202 Geneva, Switzerland ² Faculty of Psychology and Educational Sciences, FPSE, University of Geneva, CH-1202 Geneva, Switzerland ³ Department of Neuroscience, Biotech Campus, 9 chemin des Mines, 1211 Geneva, Switzerland ⁴ Swiss Center for Affective Sciences, University of Geneva, CH-1202 Geneva, Switzerland
24	FOURNIER Raphaël	Modulation of pain recognition metacognitive processes induced by sleep loss	Fournier Raphaël ¹ , Fillebeen Julie ² , Riontino Laura ^{1,2,3,4} , Schwartz Sophie ^{2,3,4} , Corradi Dell'Acqua Corrado ^{1,4}	¹ Faculty of Psychology and Educational Sciences, Geneva University, Switzerland ² Faculty of Medicine, Geneva University, Switzerland ³ Department of Neurosciences, Campus Biotech, 9 chemin des Mines, 1211 Geneva, Switzerland ⁴ Swiss Center of Affective Neurosciences (CISA), Geneva University, Switzerland
25	GEORGES Maryse	Salience Network alteration in preterm children: An exploratory study	Georges Maryse ¹ , Siffredi Vanessa ² , Chiara Liverani Maria ² , Hüppi Petra ^{1,2}	¹ Child Development Laboratory, University of Geneva, Faculty of Medicine & Department of Paediatrics, Gynecology and Obstetrics, Division of Development and Growth, Geneva University Hospitals, Geneva, Switzerland
26	GLORIA Yesica	Alteration of dopamine and serotonin systems interaction in Alzheimer's disease	Gloria Yesica ^{1,2} , Ceyzeriat Kelly ^{1,2} , Millet Philippe ^{1,2} , Tournier Benjamin B. ¹	¹ Division of Adult Psychiatry, Department of Psychiatry, University Hospitals of Geneva, Switzerland ² Department of Psychiatry, University of Geneva, Switzerland
27	GOTTOFREY Vanessa	Goal-relevant information benefits spatial and temporal memory	Vanessa Gottofrey ¹ , Baptiste Gauthier ² , Emmanuel Badier ³ , Maria Giulia Preti ⁴ , Dimitri Van de Ville ⁴ , Kinga Igloi ¹ , Alison Montagrin ¹ and Sophie Schwartz ¹	¹ Sleep and Cognition Neuroimaging Laboratory, Department of Basic Neuroscience, University of Geneva, Switzerland ² Laboratory of Cognitive Neuroscience, Center for Neuroprosthetics, Brain Mind Institute, EPFL, Switzerland ³ Brain and Behaviour Laboratory, Department of Basic Neuroscience, University of Geneva, Switzerland ⁴ Medical Image Processing Lab, School of Engineering, Institute of Bioengineering, EPFL, Switzerland
28	GOUROUVADOU Camille	A voxel-based morphometry study of interindividual factors that affect environmental-relevant behavior	Gourouvadou Camille ¹ , Doell Kimberly ^{1,2} , Brosch Tobias ^{1,2}	¹ Department of Psychology, University of Geneva, 40, Boulevard du Pont d'Arve, CH-1205 Geneva, Switzerland ² Swiss Center for Affective Sciences, University of Geneva, 9, Chemin des Mines, CH-1202 Geneva, Switzerland

29	HAYRAPETYAN Shushanik	Designing and testing the ASIMOV Test: a non-verbal Turing Test based on human criteria to evaluate the cognitive, affective and social development of virtual agents governed by the Projective Consciousness Model	Hayrapetyan Shushanik ¹ , Vogt François ¹ , Rambosson I. ¹ , Tisserand Yvain ¹ , Samson Andrea ³ , Maillart T. ⁵ , Debbané Martin ² , Schaer Marie ⁴ , Belli O. 1, Rudrauf David ^{1, 2}	¹ MMEF lab, Biotech Campus, 9 chemin des Mines, 1211 Geneva, Switzerland ² Faculty of Psychology and Educational Sciences, University of Geneva ³ Département de Pédagogie Spécialisée, University of Fribourg ⁴ Department of Psychiatry, Faculty of Medicine, University of Geneva ⁵ Geneva School of Economics and Management, University of Geneva
30	HENCKAERTS Pauline	Use of REM sleep in exposure therapy for patients suffering of social anxiety	Henckaerts Pauline ¹ , Borghese Francesca ¹ , Sterpenich Virginie ^{1,2} , Schwartz Sophie ^{1,2} , Perogamvros Lampros ^{1,2,3}	¹ Department of Neuroscience, Biotech Campus, 9 chemin des Mines, 1211 Geneva, Switzerland ² Department 4 4 of Neuroscience, Faculty of Medicine, University of Geneva, Switzerland ³ Sleep Laboratory, Division of Pneumology, Geneva University Hospitals, Geneva, Switzerland
31	HO Dini	Changes induced by the HABIT-ILE (Hand and Arm Bimanual Intensive Therapy Including Lower Extremities) therapy in bilateral Cerebral Palsy (CP)	Ho Dini ¹ , Van de Looij Yohan ² , Toulotte Audrey ¹ , Baud L. ³ , Barraud LQ. ³ , Sanches E.F. ¹ , Courtine Grégoire ³ , Sizonenko Stéphane V. ¹	¹ Division of Child Development and Growth, Department of Gynecology, Obstetrics and Pediatrics, School of Medicine, University of Geneva ² Laboratory for Functional and Metabolic Imaging, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland ³ Center for Neuroprosthetics and Brain Mind Institute, School of Life Sciences, Swiss Federal Institute of Technology (EPFL), Campus Biotech, Geneva, Switzerland
32	JENSEN DE CARVALHO HOED Luciane	A video game intervention to train visual-spatial working memory and emotion regulation - does Flow experiences during training facilitate learning?	Jensen Luciane ¹ , Pichon Swann ^{1,2} , Bavelier Daphné ¹	¹ Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland ² Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland
33	KASTELER Arnaud	The impact of anxiety on spatial orientation through hippocampal activity	Kasteler Arnaud ¹ , Maurer Roland ¹	¹ Faculty of Psychology and Education Sciences, 40, Boulevard du Pont-d'Arve, 1211 Geneva, Switzerland
34	KIM Judy	Investigation on body movements in approach-avoidance behavior in a social dilemma using virtual reality	Kim Judy ¹ , Özarlan Irmak ¹ , Monnor T. ¹ , Tisserand Yvain ¹ , Rudrauf David ^{1,2}	¹ Laboratory of Multimodal Modeling of Emotion and Feeling, FPSE, University of Geneva, Geneva, Switzerland ² Centre Universitaire d'Informatique, University of Geneva, Geneva, Switzerland

35	KUENZI Noémie	Effects of acute physical exercise on associative memory in individuals with genetic risk for Alzheimer's disease: Preliminary findings	Noémie Kuenzi ¹ , Blanca Marin Bosch ¹ , Aurélien Bringard ² , Sophie Schwartz ^{1,3} , Kinga Igloi ^{1,3}	¹ Department of Basic Neurosciences, Faculty of Medicine, University of Geneva, Geneva, Switzerland ² Respiratory Physiology lab, Division of Pulmonary Medicine, University Hospitals of Geneva, Geneva, Switzerland ³ Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland
36	LEHMANN Honorine	Impact of fixation location on early facial encoding: a lateralized N170 investigation	Lehmann Honorine ¹ , Burra Nicolas ¹	¹ Faculty of Psychology and Educational Sciences, University of Geneva
37	LUCCHINI Mattia	The role of Insula-Accumbens pathway in approach and avoidance social behaviour	Mattia Lucchini ¹ , Pedro Espinosa ¹ , Federica Campanelli ¹ , Camilla Bellone ¹	¹ Department of Basic Neuroscience, Faculty of Medicine, University of Geneva, Switzerland
38	MANOOGIAN Adam	Effect of a Valence-induced Confidence Bias in a Volatile Environment in a Reinforcement Learning Task	Manoogian Adam ¹ , Lebreton Maël ¹	¹ Laboratory of Neurology and Imaging of Cognition, Department of Fundamental Neurosciences, University Geneva, Geneva, Switzerland
39	MARADAN Christel	Defining whether the neural bases of empathy differ in older compared to younger adults using functional magnetic resonance imaging	Maradan Christel ^{1,2} , Baez Lugo Sebastian ^{1,2,3} , Klimecki Olga ^{1,3} , Vuilleumier Patrik ^{1,2,3}	¹ Department of Neuroscience, University of Geneva, Switzerland ² Laboratory for Behavioral Neurology and Imaging of Cognition, University of Geneva, Geneva, Switzerland ³ Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland
40	MARCHESI Laura	Rapid Reality Filtering: Electrophysiological correlates	Marchesi Laura ¹ , Adam-Darque Alexandra ¹ , Schnider Armin ¹	¹ Laboratory of Cognitive Neurorehabilitation, Department of Clinical Neurosciences, University Hospital of Geneva and University of Geneva, Switzerland
41	MARZAL Marius	What make a genuine emotion expression in a face? A research on virtual humans and physiological cues	Marzal Marius ¹ , Tisserand Yvain ¹ , Rudrauf David ¹	¹ Lab for Multimodal Modelling of Emotion and Feeling, Swiss Center for Affective Sciences, University of Geneva, Switzerland
42	MAURIELLO Cheyenne	Face and Gaze Processing in adults with ADHD	Mauriello Cheyenne ^{1,2} , Deiber Marie-Pierre ^{2,3} , Pham Eleonore ² , Kung Anne-Lise ^{1,2} , Piguet Camille ^{1,2} , Michel Christoph M. ¹ , Aubry Jean-Michel ^{2,3} , Perroud Nader ^{2,3} , Dayer Alexandre ^{1,2,3} , Berchio Cristina ^{1,2}	¹ Department of Basic Neurosciences, Faculty of Medicine, University of Geneva, Geneva, Switzerland ² Department of Psychiatry, Faculty of Medicine, University of Geneva, Geneva, Switzerland ³ Department of Mental Health and Psychiatry, Service of Psychiatric Specialties, Mood disorders unit, University Hospitals of Geneva, Switzerland
43	MENENDEZ GRANDA Marta	The role of motor imagery in mental rotation: an EEG study	Menéndez Granda Marta ¹ , Adam-Darqué Alexandra ¹ , Ptak Radek ¹	¹ Laboratory of Cognitive Neurorehabilitation, Department of Clinical Neurosciences, Geneva University Hospital and University of Geneva, Switzerland
44	MEYER Lea	Role of monoaminergic system in Alzheimer's disease	Meyer Léa ^{1,2} , Ceyzériat Kelly ² , Gloria Yesica ^{1,2} , Millet Philippe ^{1,2} , Tournier Benjamin ²	¹ Department of Psychiatry, University of Geneva ² Division of Adult Psychiatry, Department of Psychiatry, University Hospital of Geneva
45	MICHEL-MAZAN Loïs	Measure of attention bias to threat in anxious population: Eye-Tracking and Dot Probe test, a reliability comparison	Michel-Mazan Loïs ¹ , Pichon Swann ¹ , Bavelier Daphné ¹	¹ Faculty of Psychology and Education Sciences, University of Geneva, Geneva, Switzerland.

46	MUELLER Cécile	Structural brain plasticity induced by musical training in 60 healthy elderly	Müller Cécile ¹ , Marie Damien ¹ , Abdili Laura ¹ , Grouiller Frédéric ² , Kliegel Matthias ³ , Van De Ville Dimitri ⁴ and James Clara E. ¹	¹ Geneva Musical Minds Laboratory, School of Health Sciences, HES-SO Geneva, Switzerland ² Brain and Behaviour Laboratory, University of Geneva, Switzerland ³ Center for the Interdisciplinary Study of Gerontology and Vulnerability, University of Geneva, Switzerland ⁴ School of Engineering, Institute of Bioengineering, EPFL, Switzerland & Faculty of Medicine, University of Geneva, Switzerland
47	MULLER David	The effect of musical practice on the functional connectivity in 60 healthy elderly people; a resting state and fMRI working memory task study	Müller David ¹ , Marie Damien ¹ , Abdili Laura ¹ , Grouiller Frédéric ² , Kliegel Matthias ³ , Van De Ville Dimitri ⁴ and James Clara E. ¹	¹ Geneva Musical Minds Laboratory, School of Health Sciences, Geneva, Switzerland ² Brain and Behaviour Laboratory, University of Geneva, Switzerland ³ Center for the Interdisciplinary Study of Gerontology and Vulnerability, University of Geneva, Switzerland ⁴ School of Engineering, Institute of Bioengineering, EPFL, Switzerland & Faculty of Medicine, University of Geneva, Switzerland
48	MUNOZ TORD David	Wanting and Liking within the Human Ventral Striatum Subregions: a high-resolution fMRI study	Munoz Tord David ¹ , Pool Eva R ^{1,2} and Sander David ^{1,2}	¹ Laboratory for the study of Emotion Elicitation and Expression (E3Lab), Department of Psychology, University of Geneva, Switzerland ² Swiss Centre for Affective Sciences, Campus Biotech, University of Geneva, Switzerland
49	NATRAJ Shreyasvi	Pipeline for automation of the Diagnosis of Autism Spectrum Disorders using Deep Neural Networks	Natraj Shreysavi ^{1,2} , Kojovic Nadia ¹ , Mohanty S. ¹ , Maillart T. ¹ , Schaer Marie ^{1,2}	¹ Department of Psychiatry, Faculty of Medicine, University of Geneva ² Fondation Pôle Autisme, 1204 Geneva, Switzerland. martina.franchini@pole-autisme.ch ³ Developmental Imaging and Psychopathology Laboratory, Department of Psychiatry, University of Geneva, Geneva, Switzerland
50	ONAY Neslihan	The Role of the Default Mode Network in Mentalization and Inattention in ADHD.	Onay Neslihan ¹ , Rafi H. ¹ , Debbane Martin ¹ .	¹ Developmental Clinical Psychology Unit, Faculty of Psychology, University of Geneva, Geneva, Switzerland
51	ÖZARSLAN Irmak	Quantifying affective components of pupil diameter modulation in virtual reality during approach-avoidance behaviors	Özarslan Irmak ¹ , Kim Judy ¹ , Monnor Teerawat ¹ , Tisserand Yvain ¹ , Rudrauf David ^{1,2}	¹ Laboratory of Multimodeling of Emotion and Feeling, Swiss Center for Affective Sciences and Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland ² Centre Universitaire d'Informatique, University of Geneva, Geneva, Switzerland

52	PEREIRA Mickael	Structural correlates of impulsivity in emotion dysregulation disorders	Pereira Mickaël ¹ , Murray Ryan James ² , Pham Eleonore ² , Küng Anne-Lise ² , Dayer Alexandre ^{1,2} , Aubry Jean-Michel ² , Vuilleumier Patrik ¹ , Piguët Camille ^{1,2}	¹ Department of Neuroscience, Faculty of Medicine, University of Geneva, Switzerland ² Department of Psychiatry, Faculty of Medicine, University Hospital of Geneva, Switzerland
53	PLOUMITSAKOU Maria	Does threat generalize across sensory modalities?	Ploumitsakou Maria ¹ , Leitão Joana ^{1,2} , Vuilleumier Patrik ^{1,2}	¹ Laboratory for Behavioral Neurology and Imaging of Cognition, Department of Fundamental Neuroscience, University of Geneva, Switzerland ² Swiss Center for Affective Sciences, University of Geneva, Switzerland
54	RABET Selma	Unraveling how VIP interneuron-mediated disinhibition underlies sensory-driven cortical plasticity	Rabet Selma ¹ , Williams Leena ¹ , Holtmaat Anthony ¹	¹ Department of Fundamental Neurosciences, Faculty of Medicine, University of Geneva, Geneva, Switzerland
55	SAGE Célia	Role of higher-order thalamocortical feedback during cortical network plasticity	Sage Célia ¹ , Rey Elodie ¹ , Pagès Stéphane ¹ , Chereau Ronan ¹ , Holtmaat Anthony ¹	¹ Department of Neurosciences, Faculty of Medicine, University of Geneva, Geneva, Switzerland
56	SANDERS Bryan	The influence of gains and losses on prospective memory in younger and older adults	Sanders Bryan ¹ , Hering Alexandra ¹ , Kliegel Matthias ¹	¹ Cognitive Aging Lab at the Department of Psychology, University of Geneva
57	SARE Sebastien	Dream, a novel method to decipher the olfactory code	Alexis Assens ^{1,2} , Alexander Haider ^{1,2} , Sébastien Sare ^{1,2} , Benoît von der Weid ^{1,2} , Leon Fodoulian ^{1,2,3} , Joël Tuberosa ^{1,2} , Chenda Kan ^{1,2} , Alan Carleton ^{2,3} and Ivan Rodriguez ^{1,2}	¹ Department of Genetics and Evolution, University of Geneva, Switzerland ² Geneva Neuroscience Center, University of Geneva, Switzerland ³ Department of Basic Neurosciences, School of Medicine, University of Geneva, Switzerland
58	SAVARY Valentine	VRelief - Mitigating pain and anxiety in children during needle procedures in the emergency room	Savary Valentine ^{1,2} , Nitu-Demange Camélia ^{1,2} , Corradi-Dell'Acqua Corrado ³ , Mermet Stéphanie ⁴ , Sayhoun Cyril ⁵ , Tisserand Yvain ² , Rudrauf David ^{1,2}	¹ Faculty of Psychology and Education sciences, University of Geneva, Switzerland ² Lab for Multimodal Modelling of Emotion and Feeling, Swiss Center for Affective Sciences, University of Geneva, Switzerland ³ Theory of Pain Laboratory (TOPLab), Faculty of Psychology and Education sciences, University of Geneva, Switzerland ⁴ Infirmière Spécialisée en Soins d'Urgence et Santé de l'Enfant, de l'Adolescent et des Familles, Practicienne Hypnose, Service d'Accueil et d'Urgences Pédiatriques, Département de la Femme, de l'Enfant et de l'Adolescent, Hôpitaux Universitaires de Genève, Switzerland ⁵ Médecin adjoint du chef de service, Service d'Accueil et d'Urgences Pédiatriques, Département de la Femme, de l'Enfant et de l'Adolescent, Hôpitaux Universitaires de Genève, Switzerland

59	SCHNEEFELD Felix	Auditory aversion and neural entrainment to 40 Hz sounds probe inter-individual anxiety	Schneefeld Félix ¹ , Marchesotti Silvia ¹ , Desvachez A ² , Igloi Kinga ¹ , Giraud Anne-Lise ¹ , Arnal Luc H. ^{1,3}	¹ Department of basic Neuroscience, University of Geneva, Switzerland. ² Fondation Campus Biotech Genève, Geneva, Switzerland. ³ Institut de l'Audition, Centre Pasteur Paris XII, France
60	SIZONENKO Eva	Investigating the roles of occipital face area and fusiform face area in face processing: an fMRI neurofeedback study	Sizonenko Eva ¹ , Peek Lucas ¹ , Vuilleumier Patrik ¹	¹ Behavioral Neurology and Imaging of Cognition Lab, Department of Fundamental Neurosciences, University of Geneva
61	SOW Sadou	Lactoferrin neuroprotection following brain neonatal hypoxia-ischemia: dose-response and mechanistic study	Sow Sadou ¹ , Toulotte A. Aebi ¹ , Sanches EF ¹ , Sizonenko Stephane ¹	¹ Division of child development and growth, Department of Gynecology, obstetrics and pediatrics, Geneva University Hospital
62	TAPPAREL Malika	VTA neurons involved during social motivation task	Tapparel Malika ¹ , Girard Benoit ¹ , Prévost-Solié Clément ¹ , Bellone Camilla ¹	¹ Department of Basic Neurosciences, CMU, University of Geneva, Switzerland
63	TEXEIRA Mélanie	Neural correlates of spatial orientation in highly familiar environments: an EEG study	Mélanie Teixeira De Almeida ¹ , Roland Maurer ¹ , Nicolas Burra ¹ , Martin Seeber ² , Igor Faulmann ¹	¹ Faculty of Psychology and Educational Science, University of Geneva, Switzerland ² Department of Fundamental Neuroscience, University of Geneva, Switzerland
64	URWICZ Leah	Analgesic mental imagery in chronic pain: Impact on central pain processing	Urwicz Leah ¹ , Tissières Isabel ¹ , Tobler Caroline ² , Siegrist Claire Anne ² , Vuilleumier Patrik ³ , Renella Berna Chantal ¹	¹ Centre Hospitalier Universitaire Vaudois (CHUV), Centre de Médecine Intégrative et complémentaire (CEMIC), UNIL, Lausanne ² Hôpitaux Universitaires de Genève (HUG), UNIGE, Genève ³ Laboratory of Neurology and Imaging of Cognition, Department of Fundamental Neurosciences, University of Geneva, Genève
65	VALENTE Johara	Effect of overnight olfactory stimulations on dreams	Johara Valente ¹ , Elifnaz Geçer ¹ , Guillaume Legendre ¹ , Sylvain Delplanque ² , Isabelle Cayeux ³ , Sophie Raviot-Derrien ⁴ , Virginie Sterpenich ¹ and Sophie Schwartz ¹	¹ Neuroimaging of Sleep and Cognition Laboratory, Department of Basic Neuroscience, Faculty of Medicine, University of Geneva ² Laboratory for the Study of Emotion Elicitation and Expression, Departement of Psychology, Faculty of Psychology and Educational Science, University of Geneva ³ Firmenich SA, Route des Jeunes 1, 1227 Geneva, Switzerland ⁴ Coty Geneva SA Versoix, Chemin de la Papeterie 1, 1290 Versoix

66	VOGT François	Designing and testing the ASIMOV Test: a non-verbal Turing Test based on human criteria to evaluate the cognitive, affective and social development of robots governed by the Projective Consciousness Model	Vogt François ¹ , Rambosson I. ¹ , Hayrapetyan Shushanik ¹ , Tisserand Yvai ¹ , Samson Andrea ³ , Maillart T. ⁵ , Debbané Martin ² , Schaer Marie ⁴ , Belli O. ¹ , Rudrauf David ^{1,2}	¹ MMEF lab, Biotech Campus, 9 chemin des Mines, 1211 Geneva, Switzerland. ² Université de Genève / FAPSE, 40 Blvd du Pont-d'Arve, 1211 Genève 4 ³ Université de Fribourg / Département de Pédagogie Spécialisée, 21 rue St-Pierre-Canisius, 1700 Fribourg ⁴ Geneva University / Faculty of Medicine, Department of Psychiatry, 20bis rue de Lausanne, 1201 Genève ⁵ Geneva School of Economics and Management, 40 Blvd du Pont-d'Arve, 1211 Genève 4
67	ZIADLOU Donya	The effect of sexuality in advertisement on attention and consumer decision	Ziadlou Donya ¹ , Preuschoff Kerstin ^{1,2}	¹ Swiss Center for Affective Sciences at the University of Geneva ² Geneva Finance Research Institute at the University of Geneva
68	ZIMMERMANN Myriam	Combination of Neurofeedback and Virtual Reality as a new treatment for ADHD.	Zimmermann Myriam Ophélie ^{1,2} , Tyrand Rémi ² , Badier Emmanuel ² , Ha-Vinh Leuchter Russia ³ , Vuilleumier Patrik ^{1,2} , Grouiller Frédéric ^{1,2}	¹ Swiss Center for Affective Sciences, University of Geneva, Switzerland. ² Behavioral Neuroimaging & Cognition Lab, Department of Fundamental Neurosciences, University of Geneva, Switzerland ³ Division of Development and Growth, Department of Pediatrics, Geneva University Hospital, Switzerland