

The Swiss Society for Neuroscience

March 20, 2023



SSN 2023 GoVote Newsletter

Dear SSN Member, Dear Neuroscientist working in Switzerland



The SSN Community will be asked to vote on new Council Members

This year is an election year for the SSN

You will have to vote on

<u>The Nominee for President-Elect of the SSN</u>: **Tania Barkat Rinaldi**, University of Basel, current SSN secretary <u>Four newly nominated candidates as Members of the SSN Council</u>: **De Lucia Marzia**, University of Lausanne **El Boustani Sami**, University of Geneva **Fulda Stephany**, Neurocenter of Southern Switzerland **Tobler Philippe**, University of Zurich

The SSN Council has unanimously nominated these individuals. Each of these will bring a unique profile of scientific expertise and motivation to the SSN Council to shape the SSN's future. Discover the profiles of the four new nominees on the next pages! And make sure **you join the votation** to support them during our Annual Meeting in Lugano, June 9-10th. Click <u>here</u> to proceed with your registration, abstract submission and travel organization for the Meeting!

Warm regards,

C. Lilli

Anita Lüthi, SSN President

MARZIA DE LUCIA

PHYSICIST & NEUROSCIENTIST

Senior Scientist and Lecturer Principal Investigator at the Laboratory of Research in Neuroimaging **Department of Clinical Neuroscience** Lausanne University Hospital & University of Lausanne

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EDUCATION

2001, 2005 MSc and PhD in Physics, University La Sapienza, Rome

WORK HISTORY

Lausanne University Hospital **Dept Clinical Neuroscience** Dec 2016 - Present Lausanne University Hospital **Center for Biomedical Imaging** Oct 2006 - Nov 2016 University College London Dept Medical Physics Oct 2004 - Sept 2006

Senior Scientist & Lecturer

Prognostic markers for coma outcome prediction. Auditory regularity encoding in sleep and coma. Interplay between interoceptive and exteroceptive input processing.

Responsible for the EEG platform in the Departiment

Researcher

Multivariate decoding analysis for EEG data. Experimental paradigms and modelling of semantic auditory processing and perceptual decision making

Junior Researcher

Automatic classification of epileptifom features in eletroencephalographic data





BIOGRAPHICAL SKETCH

In 2004 I joined the Institute of Cognitive Neuroscience, University College London, supported by a Marie Curie training site fellowship under the supervision of Vincent Walsh. I was then research fellow at the Medical Physics Department of the same university supervised by David Holder and Peter Dayan. In 2006 I joined the Center for Biomedical Imaging of the Lausanne University Hospital as research scientist in the group led by Micah Murray and appointed senior scientist and lecturer (Maître d'Enseignement de de Recherche and Privat Docent) in 2016 in the Department of Clinical Neuroscience. My work is centered around the investigation of the neural bases of human cognition in altered states of consciousness and on methods development for the analysis of electrophysiological brain signals in humans. I have been supported by the Swiss National Science Foundation. EUREKA Eurostars and the Bertarelli Foundation, published 52 peer-reviewed papers,1 patent and coordinated the acquisition of 1000+ EEG recordings in comatose patients across hospital sites in Switzerland.

MOTIVATION

As a council member of the Swiss Society for Neuroscience I would have the privilege to support an organization with a pivotal role in connecting and promoting the dialogue within the many centers and laboraties that constitutes the large costellation of neuroscience research in Switzerland. I would be happy to support the organization by encouraging the participation of young scientists and underrepresented groups across Switzerland and to contribute its visibility through disseminating ativities. I am particularly interested in promoting the dialogue between basic neuroscience research, human neuroscience and clinical applications through the organization of roundtables, workshops and symposia at the Swiss Society for Neuroscience meetings. I would be also happy to take inititiaves for gathering facts and figures about new trends in neuroscience research for increasing awareness about the role of Switzerland in promoting emerging topics in neuroscience at the international level.

Sami El-Boustani, PhD



Last name: First name: Gender: Nationality: Date of birth: Position: Email: ORCID: Lab website:

EI-Boustani Sami Male Swiss March 2nd 1981 SNSF Assistant Professor sami.el-boustani@unige.ch 0000-0003-1733-4341 http://elboustani-lab.org/

Biosketch

I am currently an Assistant Professor in the Department of Basic Neurosciences at the University of Geneva, where I lead my own lab. After graduating as a theoretical physicist at the Swiss Institute of Technology in Lausanne (EPFL), I guickly developed a strong interest in neurosciences and obtained a second Master's degree in Cognitive Science from l'Ecole Normal Supérieure in Paris (France). From there, I pursued a Ph.D. in neuroscience at Sorbonne University, conducting my research project in the team of Dr. Alain Destexhe at the Unité de Neuroscience Intégratives et Computationelles (UNIC) in Gif-sur-Yvette, France. During this time. I honed my skills in computational modeling and experimental techniques to investigate sensory processing and long-term plasticity in cortical networks in vivo. After completing my Ph.D. in 2011, I was awarded a postdoctoral fellowship funded by EMBO and by Marie Curie International Outgoing programs to work with Prof. Mriganka Sur in the Department of Brain and Cognitive Sciences at the Massachusetts Institute of Technology (MIT, Cambridge, USA). During this time, I explored the function of specific interneuron celltypes in the primary visual cortex, as well as mechanisms of dendritic plasticity in single neurons in vivo. In 2015, I returned to Lausanne to undertake a second postdoctoral position, this time in the laboratory of Prof. Carl Petersen at the Brain and Mind Institute at EPFL. My work there focused on the brain circuits involved in goal-directed sensorimotor transformation in the mouse whisker somatosensory system. Finally, in 2018, I was awarded an Eccellenza Professorial fellowship from the Swiss National Science Foundation to start my own lab at the University of Geneva. Since then, my team and I have been investigating the neural mechanisms underlying decision-making and learning in the mammalian brain.

Motivation

Joining the SSN Council would provide me with a valuable opportunity to make a more systematic contribution to the scientific community by engaging in discussions about new ideas, policies, and technologies in Switzerland and beyond. I am passionate about communicating science and education to a broad audience to ensure transparency and access to knowledge. Having gained international and multicultural scientific experiences, I firmly believe in diversity and equal opportunities. The SSN upholds these principles, and I am committed to promoting neuroscientific training and careers to enhance the richness of the Swiss scientific landscape. Throughout my career, I have been actively involved in teaching and outreach activities. For example, I participated in a workshop on quantitative biology organized by MIT through the high-standard open online courses edX. This course was conducted in-class for students from underrepresented minority schools in the USA, providing equal opportunities to these communities. While I was in France, I co-organized a workshop to introduce animal experimentation and ethical considerations to non-experimentalists. I hope to continue these efforts on a larger scale within the Swiss scientific community, and I would be honored to be a part of the SSN Council.



Personal Information

Name	Stephany Fulda, PhD, DiplPsych.
Address	Via Massagno 14, 6900 Lugano, Switzerland
E-mail	stephany.fulda@gmail.com
Citizenship	German
Current position	Senior Scientist, Sleep Medicine Unit, Neurocenter of Southern Switzerland, Civic Hospital (ÈOC), Lugano

Education (selection):

10/2008-04/2011	Dissertation at the University of Regensburg, Germany: "Restless legs
	syndrome: diagnosis, treatment and pathophysiology" (magna cum laude)
02/2006	Qualification "Somnology" of the Deutsche Gesellschaft für Schlafmedizin
	(DGSM), German Society for Sleep Medicine
04/1997	Diploma in Psychology at the Institute of Psychology, Free University Berlin,
	Berlin, Germany

Employment history (selection):

since 01/2012	Senior scientist at Sleep and Epilepsy Center, Neurocenter of Southern
	Switzerland, Civic Hospital (EOC), Lugano, Switzerland
09/2007 - 10/2011	Scientist and scientific consultant to the management at the Max Planck Institute
	of Psychiatry, Munich, Germany
01/2004 - 08/2007	PhD Student at the Max Planck Institute of Psychiatry, Munich, Germany

Key publications:

- **Fulda S**, Allen RP, Earley C, Högl B, Garcia-Borreguero D, Inoue Y, Ondo W, Walters AS, Williams AM, Winkelman JW (2021) We need to do better: a systematic review and meta-analysis of diagnostic test accuracy of restless legs syndrome screening instruments. Sleep Medicine Reviews: 58: 101461.
- **Fulda S**, Heinzer R, Haba-Rubio J (2018) Characteristics and determinants of respiratory event associated leg movements. Sleep; 41(2): zsx206.
- Ferri R, Fulda S, Allen RP, Zucconi M, Bruni O, Chokroverty S, Ferini-Strambi L, Frauscher B, Garcia-Borreguero D, Hirshkowitz M, Högl B, Inoue Y, Jahangir A, Manconi M, Marcus CL, Picchietti DL, Plazzi G, Winkelman JW, Zak RS (2016) World Association of Sleep Medicine (WASM) 2016 Standards for recording and scoring leg movement in polysomnograms. Developed by a joint task force from The International and European Restless legs Syndrome Study Groups (IRLSSG and EURLSSG). Sleep Medicine; 26(10):86-95.
- **Fulda S**, Romanowski CPN, Becker A, Wetter TC, Kimura M, Fenzl T (2011) Rapid eye movements during sleep in mice: High trait-like stability qualifies rapid eye movement density for characterization of phenotypic variation in sleep patterns of rodents. BMC Neuroscience 12:110.

Motivation for application for SSN council:

A psychologist by training, I am a long term sleep researcher and clinician at the Sleep Medicine Unit of the Neurocenter of Southern Switzerland in Lugano where I am focussing on the fascinating and often enigmatic periodic phenomena in the infra-slow range during sleep. Through my work, I have come to believe that interand cross-disciplinary collaboration and exchange of ideas is essential for advancing our understanding in the neuroscience field. I am excited about the opportunity to network with the SSN council members and to learn from their expertise and experience, while sharing my own insights and contributions to the SSN community.

Philippe Tobler

Associate Professor of Neuroeconomics and Social Neuroscience University of Zurich, Switzerland https://www.econ.uzh.ch/en/people/faculty/tobler.html



Biosketch

I have a background in psychology and neurophysiology, which I use to investigate the basic processes underlying motivation, learning and value-based decision making. Together with my colleagues, we have characterized the brain areas and cell types involved in the (adaptive) processing of economic value and risk, which has found translations in clinical settings. For example, we have shown that a solution for neural systems to remain sensitive to vastly varying reward values is to adapt to the most likely reward values (mean and range) given current contexts and predictions. We demonstrated such adaptive value coding in dopamine neurons of non-human primates and in frontostriatal regions in humans. Moreover, our translational work indicated that patients with schizophrenia and even healthy individuals with schizotypal personality show reduced value adaptation.

In value-based decision making, the two main drivers of motivation, i.e., costs (punishment) and benefits (rewards) need to be represented, integrated and balanced. We have made multiple contributions to elucidating the neural mechanisms involved in these processes. For example, we have shown that dopamine neurons represent risk in addition to rewards, with systemic D1 receptor agonists and D2 receptor antagonists affecting risk preferences, that lateral prefrontal cortex integrates reward with risk value (replicated 4 times), and that frontal pole integrates risk and effort costs, thereby facilitating motivation.

Finally, we have applied individual learning mechanisms to the social domain. For example, we have shown that learning to interact with people we are incidentally paired with can lead to the social exclusion of others, that observational learning of fear can affect decision making as negatively as individual learning of fear, i.e. through an interference of Pavlovian learning with instrumental learning processes and that individual learning mechanisms explain social media use.

SSN council nomination

In recognition that any method and model on its own has specific strengths and weaknesses, I recognize the value of using different methods and models for understanding the brain and of bringing specialists with different backgrounds together in a Society like SSN. As a council member, I would like to facilitate cross-talk between approaches with the aim of providing mutual benefits.