

9th EUROPEAN AUTUMN SCHOOL

ON MULTIMODAL ANALYSIS OF THE DEVELOPMENT OF BRAIN FUNCTION







With the French Society of Clinical Neurophysiology, the University of Picardie Jules Verne and the Faculty of Medecine develop, in the framework of **The neurodevelopment and neuroscience program** (Master II Physiopathologie des Systèmes intégrés), an Autumn School entitled **Functional Optical Imaging and Cerebral Oxymetry**.

The Nineth Autumn School will be held in 2021, November 2-5[™] at the Medical Faculty, 3 rue des Louvels Amiens, France.

Cerebral oxymetry and optical imaging are upcoming technics which allow evaluating noninvasively the tissular concentration of HbO and Hb and their variations in different physiological and pathological situations.

Both of these technics are based on **Near Infrared spectroscopy**. They are upcoming technics that are now used by clinicians, notably in Intensive Care Units, or by physiologist to explore the cerebral function.

Optical imaging can be easily done **simultaneously with EEG** allowing the exploration of both aspects, electrical and hemodynamic, of the **neurovascular coupling** or of the neurovascular unit in physiological (language...) and pathological (epilepsy, Parkinson....) situations.

The *first objective* is to bring basic knowledge and acquisition experience concerning near infrared spectroscopy.

The **second objective** is to precise the application domains of cerebral oxymetry in neonates after reviewing the basic principle of neonatal maturation.

The *third objective* is to go in deep in optical imaging in two situations: the benefit of optical imaging in (1) the analysis of language networks, (2) the analysis of epileptic networks.

Practical works will be held in each evening with the different systems available in the laboratory.

This autumn school will validate 5 ECTS after presentation of a report made in group. Free inscriptions.

	TUESDAY NO
10-10.15 AM	Presentation
10.15-12 AM	Functional background: The ne F. Wallois, Amiens
12-2 PM	Lunch time
2-4 PM	Multimodal analysis of brain f M. Mahmoudzadeh, Amiens
4-6 PM	Multimodal analysis of brain f M. Mahmoudzadeh, Amiens
6-7 PM	Working in groups S. Moghimi,
	WEDNESDAY N
8.30-10 AM	Use of NIRS from antenatal to L. Leroy, Amiens
10-12 AM	Activity of endogenous genera L. Routier, Amiens
12-2 PM	Lunch time
2-4 PM	An introduction to predictive c S. Moghimi, Amiens
4-6 PM	Networks for cognition S. Moghimi, Amiens
6-7 PM	Working in groups S. Moghimi,
	THURSDAY NO
8.30-10 AM	EEG NIRS Coupling and neuroo F. Wallois, Amiens
10-12 AM	A clinical tool to investigate la A Gallagher, Montreal
12-2 PM	Lunch time
2-4 PM	Neurocognition of music S. Moghimi, Amiens
4-6 PM	Area X is actvated by Stimulus physiologic considerations and H. Obrig, Berlin
2-4 PM	Working in groups S. Moghimi,

VEMBER 2[™]

eurovascular unit

unction (Basics and Instrumentation)

unction (biosignal processing and application)

M. Mahmoudzadeh

OVEMBER 3[™]

early postnatal life

ators in the course of development

oding

M. Mahmoudzadeh

OVEMBER 4[™]

development

nguage brain networks

s Y»: how to interpret fNIRS results - Some d examples of studies in infants.

M. Mahmoudzadeh

FRIDAY NOVEMBER 5™	
9-12 AM	EEG NIRS training at the Hospital (according to COVID) M. Mahmoudzadeh, S. Moghimi, Amiens
12-2 PM	Lunch time
2-6 PM	EEG NIRS training at the Hospital (according to COVID) M. Mahmoudzadeh, S. Moghimi, Amiens





AUTUMN SCHOOL 2-5TH NOVEMBER 2021