

4th European autumn school
on cerebral oxymetry and optical imaging

fNIRS

21-25 Novembre 2016
UFR de Médecine
3 rue des Louvels
Amiens
France



OBJECTIVES

With the French Society of Clinical Neurophysiology, the University of Picardie Jules Verne and the Faculty of Medicine 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 Fourth Autumn School will be held in 2016, November 21-25 th at the Faculty of Medicine, 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.

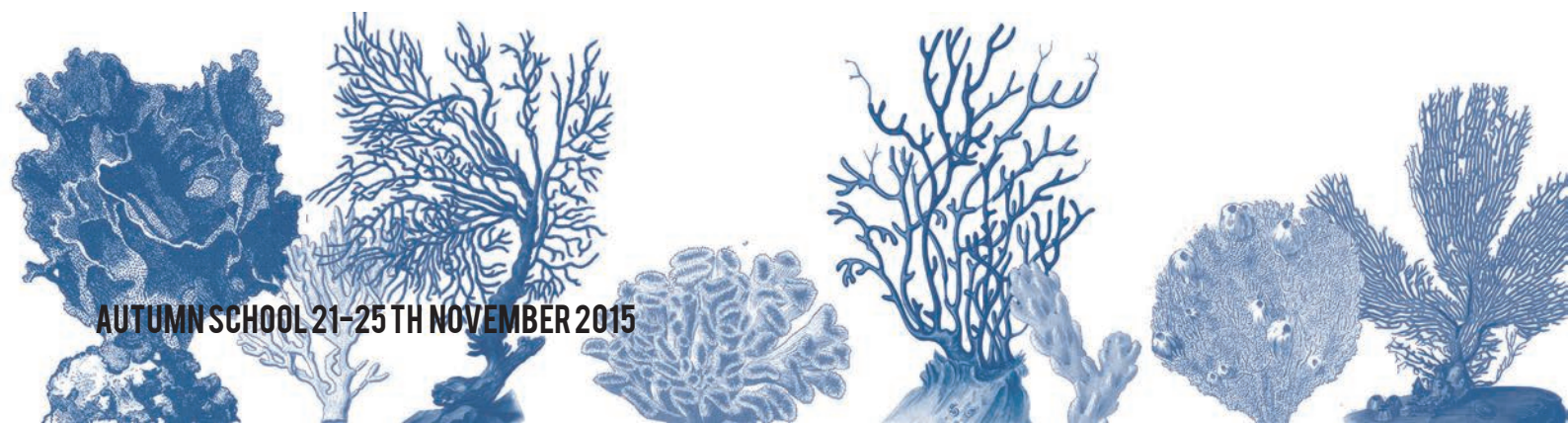
The **second objective** is to precise the application domains of cerebral oxymetry in neonates after reviewing the basic principle of neonatal maturation.

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.

AUTUMN SCHOOL 21-25 TH NOVEMBER 2015





MONDAY NOVEMBER 21	
9-10 AM	Presentation
10-12 AM	Functional background: The neurovascular unit <i>F. Wallois, Amiens</i>
12-2 PM	Lunch time
2-4 PM	Different modalities of near infrared spectroscopy <i>A. Aarabi, Amiens</i>
4-6 PM	Fast NIRS principes and applications <i>M. Mahmoudzadeh, Amiens</i>
6-7 PM	Tribute to Bernard Duron
TUESDAY NOVEMBER 22th	
9-11 AM	Cerebral oximetry Methodology and signal treatment <i>A. Aarabi, M. Mahmoudzadeh, Amiens</i>
11-12.30 AM	Neurodevelopment <i>F. Wallois, Amiens</i>
12.30-2 PM	Lunch time
2-4 PM	Cerebral oxymetry in neonatology Standard and clinical aspects <i>A. Saliba, Tours</i>
4-6 PM	Cerebral optical imaging Methodology and signal treatment <i>M. Mahmoudzadeh, A. Aarabi, Amiens</i>
6-7 PM	Working in groups
WEDNESDAY NOVEMBER 23th	
8-10 AM	EEG NIRS coupling <i>F. Wallois, A. Aarabi, Amiens</i>
10-12 AM	Cerebral optical imaging and epilepsy <i>E. Bourel, A. Aarabi, Amiens</i>
12-2 PM	Lunch time
2-5 PM	Working in groups at the hospital

THURSDAY NOVEMBER 24th

8-10 AM	<p>At the onset of the linguistic network Combined EEG, Optical imaging approach <i>M. Mahmoudzadeh, Amiens</i></p>
10-12 AM	<p>Neuromonitoring and imaging of cerebral blood flow with diffuse correlation spectroscopy <i>T. Durduran, Barcelone</i></p>
12-2 PM	Lunch time
2-4 PM	<p>Using NIRS to explore speech perception and language acquisition abilities at birth and in young infants <i>J. Gervain, Paris</i></p>
4-6 PM	<p>Some kids call their Teddy FTOL others don't. - Aspects of phonotactic processing in infants and development <i>H. Obrig, Berlin</i></p>
6-7 PM	Working in groups

FRIDAY NOVEMBER 25th

10-12 AM	<p>NIRS : A clinical tool to investigate language brain networks <i>A. Gallagher, Montreal</i></p>
12-2 PM	Lunch time
2-4 PM	<p>Working in groups End of autumn school</p>

