

## Application Description

An fNIR System provides researchers with real-time monitoring of tissue oxygenation in the brain as subjects take tests, perform tasks, view advertisements, experience ergonomic layouts, or receive stimulation. It allows researchers to quantitatively assess brain functions—such as attention, memory, planning, and problem solving—while individuals perform cognitive tasks. Monitor cognitive state of the subject in natural environments. Easily sync with stimuli presentation systems and integrate with other physiological and neurobehavioral measures that assess human brain activity, including eye tracking, pupil reflex, respiration, and electrodermal activity.

## Advanced Features

- Stimulus Presentation with fNIR
- Virtual Reality with fNIR
- NIRS Near Infrared Spectroscopy (fNIR)
- Event-Related Potentials (ERP)
- And [More](#)

**Watch [fNIR Webinars](#) on demand at the [BIOPAC Website](#)!**

## Selected Research Citations Below

[Search online](#) for more than 574 BIOPAC citations for fNIR

### [Classification Accuracy Enhancement of fNIR based Imagery Movement by Modified Common Spatial Pattern](#)

Md. Kabir Faisal (2019). Khulna University of Engineering & Technology, Khulna, Bangladesh

### [Influences of age, mental workload, and flight experience on cognitive performance and prefrontal activity in private pilots: a fNIRS study](#)

Mickael Causse, et al (2019). Scientific Reports, Article 7688

### [Modeling and classification of voluntary and imagery movements for brain-computer interface from fNIR and EEG signals through convolutional neural network](#)

Md. Asadur Rahman, et al (2019). Health Information Science and Systems, Article 22

### [Effect of Yoga on Hemodynamic Changes at Prefrontal cortex during Sustained Attention Task](#)

Prakash Dev, et al (2019). IEEE Xplore-International Conference on Advanced Computing and Communication Systems

### [Effects of leaning workstation on oxygenation in the prefrontal cortex and cognitive performance](#)

Vera Aneesh Kuppam, et al (2019). Clinical Archives of Communication Disorders, Vol 4, No 2-83-89

### [Combined Video Analysis of ICG and 5-ALA Induced Protoporphyrin IX and Hemoglobin Oxygen Saturation in near Infrared](#)

T. A. Savelieva, et al (2019). Prokhorov General Physics Institute of the Russian Academy of Sciences, Vavilov st., Moscow, Russia

### [The diagnosticity of psychophysiological signatures: Can we disentangle mental workload from acute stress with ECG and fNIRS?](#)

Mark Parent, et al (2019). International Journal of Psychophysiology, Vol 146

### [Psychophysiological indices of cognitive style: A triangulated study incorporating neuroimaging, eye-tracking, psychometric and behavioral measures](#)

Robert C. A. Bendall, et al (2019). Personality and Individual Differences, Vol 144

### [Neuroticism is associated with reduced oxygenation levels in the lateral prefrontal cortex following exposure to unpleasant images](#)

Ferran Baladai, et al (2019). Physiology & Behavior Journal, Vol 199